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SEPTEMBER 20, 21, 22
1915

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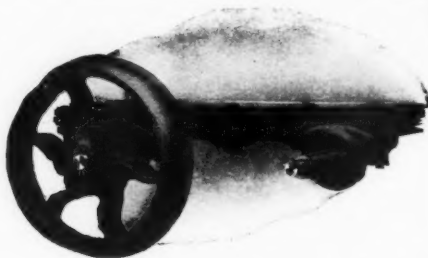
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JUNE

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To the Members of the American Mining Congress:

Do you know that you are the owners and publishers of the MINING CONGRESS JOURNAL? We trust you will realize the responsibility of this ownership and that you will lend your active assistance in making the Journal a greater success.

Real mining men should be active members. An application blank will be found on another page of this issue.

Associate memberships are designed for those not actively interested in mining, but who are willing to assist a state Chapter of the Mining Congress in helping to develop the Mining industry within the State. All memberships include subscription to the MINING CONGRESS JOURNAL.

Every member of the Mining Congress should undertake to send in at least one application each month. Will you help by having the following blank filled in and mail to this office?

SUBSCRIPTION AND APPLICATION FOR ASSOCIATE MEMBERSHIP
IN THE
AMERICAN MINING CONGRESS

.....191.....

I hereby make application for Associate Membership in THE AMERICAN MINING CONGRESS, and agree, if accepted, to abide by the By-Laws, Rules and Regulations of said organization and to pay the dues required by same. Herewith find \$1.00 fee and \$2.00 dues for one year, including subscription to the Mining Congress Journal (\$1.00 of which is designated as subscription to Journal).

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OFFICIAL CALL

Mining is essentially a National Business. While composed of many units, it is necessarily a big business. Cooperation of those units is essential to the highest efficiency. Safety, Efficiency and Conservation can only be accomplished through the combined efforts of operator, miner and consumer. The careful deliberation of practical mining men is essential in the solution of the growing problems of the industry. An opportunity for discussion and the outlining of plans through which better conditions may be brought about, will be given

At the
EIGHTEENTH ANNUAL SESSION
of the
AMERICAN MINING CONGRESS

which is hereby called to meet at the
EXPOSITION MEMORIAL AUDITORIUM
SAN FRANCISCO, CALIFORNIA
September 20, 21, 22
1915

REPRESENTATION

The Convention will be composed of the active and associate members of The American Mining Congress and members of affiliated organizations, specially invited guests and duly accredited delegates appointed under the authority hereby extended for the appointment of delegates, as follows:

The President of the United States may appoint ten delegates at large;
The Chief Executives of foreign nations may appoint ten delegates;
Governors of states and territories may each appoint ten delegates;
Mayors of cities and towns, two delegates each and one additional delegate for each 100,000 of population;
Boards of County Supervisors, Boards of Trade, Chambers of Commerce, Mining Bureaus and Exchanges, Mining Organizations, Scientific Societies, Engineers' Associations, and State Mining Schools may appoint two delegates each.

The early appointment of delegates is specially urged and that the name and address of each delegate appointed shall be sent the Secretary at the earliest time possible. Delegates will be advised of the subjects to be presented in order that proper preparation may be made for discussion.

THE AMERICAN MINING CONGRESS,
By order of the Executive Committee,
CARL SCHOLZ, President.

Attest:

J. F. CALLBREATH, Secretary,
Majestic Bldg., Denver, Colorado, May 31, 1915.

NOTICE OF ANNUAL MEETING OF MEMBERS

A meeting of the active members of The American Mining Congress is hereby called to meet at the Exposition Memorial Auditorium, San Francisco, Calif., September 21, 1915, at 7.30 p. m., for the purpose of electing six directors; one director to serve for a period of one year to fill vacancy and five directors to serve for a term of three years, to succeed Mr. D. W. Brunton, Mr. George H. Dern, Mr. Falcon Joslin and Mr. Harry L. Day, whose terms of office expire, and for the transaction of such other business as may be properly brought before said meeting.

THE AMERICAN MINING CONGRESS,

By order of Executive Committee,

CARL SCHOLZ, President.

J. F. CALLBREATH, Secretary,
Denver, Colorado, May 31, 1915.

NOTE—The American Mining Congress is an incorporated body and only active members of the organization can legally vote upon such matters as relate to the permanent business affairs of the Congress, the control of which is lodged in a Board of Directors consisting of thirteen members, who are elected to hold office for three years.

The Board of Directors is largely guided by the resolutions adopted by the Congress in Annual Session, and will maintain a working force continually engaged in carrying out the directions of the Congress.

In the regular deliberations of the Congress, the introduction and discussion of resolutions and other matters, serving upon convention committees, and in every phase of the meeting of the open body, the rights, duties and privileges of the regular members of the American Mining Congress and those of the duly appointed and admitted delegates are the same in all respects.

GENERAL STATEMENT

(The following statements are suggestive only, are offered as the thought of the Secretary and do not assume to represent the judgment of the members of the organization nor to place a limit upon the action of the convention.)

Convention Plan

It is planned to so limit the sessions of the convention that delegates and members may have greater opportunity for attending the Panama-Pacific Exposition. The usual addresses of welcome and responses from the representatives of the several states will be limited to one hour. The papers to be considered by the convention will be printed and distributed to the delegates before the convention and discussion of these papers and the subjects presented will be limited as the convention may direct. Instead of assigning certain times for the discussion of the several subjects a general program will be outlined, and at the first meeting the convention will decide how much time shall be given to the discussion of each subject.

Western Mining

Discussion looking to the better development of Western mining ought naturally to take precedence in a Western convention. How to make mining more profitable, by more efficient mining methods, more effective treatment processes, or a better market for the product, are fundamental questions submitted for discussion.

Gold Mining

Modern business enterprise depends largely on bank credits which are limited ultimately by the gold reserves. Gold reserves remain practically constant without reference to the enormous war destruction of fixed capital and property, and the demand upon floating capital for other than industrial purposes. To replace the present appalling waste will call, the world over, for increased constructive power, increased business enterprise and an increased burden on gold reserves, which, to the extent that the business world comprehends basic conditions, will create an increased interest in gold mining.

Mining Investments

Every increase of western mining development so directly benefits the West as to justify every possible effort to guide investors into channels which give fair promise of satisfactory results. A mining enterprise, unsuccessful as the result of rascality, blocks the way to future investments and injures both the investor, the community which suffered the fraud and every other community needing capital. A great comprehensive movement is being planned by which the state chapters and local sections of the Mining Congress may cooperate with the National Organization in attracting attention to promising opportunities, give accurate and reliable information to all intending investors, and protect them against all but the inherent risks of mining.

Mine Manufacturing

To advertise the mineral resources of the West, to demonstrate the necessity for the development of new mines for the employment of the brains, capital and labor now employed in mines which are being steadily exhausted, and to meet the increased demand for gold in the world's commerce—offers a promising field of public service and private gain to the prospector, the engineer, the promoter and the investor.

The Prospector, the Promoter and the Engineer

The prospector whose patient search calls attention to the possible mining opportunity, the engineer who justifies and plans for the investment, the promoter who secures the money, the mine manager and superintendent who supervise the operation, must each be given sufficient incentive to justify the best work. To the extent that any of these separate callings are uncertain of reward, to that extent must increased returns be promised in order to justify the risk of the undertaking.

The Prospector upon the public domain should have a certain promise of satisfactory title to any claim he may undertake to develop and any question of his right to secure title will necessarily interfere with his willingness to prospect or undertake development work.

The Public Lands Question

Whether the Federal Government shall lease the coal, oil and phosphate lands and water powers, or whether these shall pass into private ownership and subject to the state taxing power, is a question of vital importance to the West.

As an illustration: The coal reserves of the State of Wyoming are estimated at 424,085,000,000 tons. Let us suppose that 25 per cent. of this estimate is available for production. A royalty of 2 cents per ton to the Federal Government would amount to two billion dollars. If 10 per cent. of the estimated coal were to be placed on the market during the next hundred years, it would mean at 2 cents per ton royalty, eight hundred million dollars—or eight million dollars annually, to be derived by the Federal Government from Wyoming, while Pennsylvania and the other great coal producing states of the East would go entirely free from paying similar tribute.

Ten per cent. of the estimated coal reserve of the States of Wyoming, Montana, Colorado and Utah, at 2 cents per ton royalty, would net the Federal Government twenty-five hundred million dollars,—one-third more than the aggregate bonded indebtedness of all the states and cities of the United States.

The Water Powers of the West are more valuable than its coal reserves, and a most modest royalty will net a fabulous income all of which will be a special tax upon the Western States for the support of the National Government, not imposed on the Eastern States.

This is one of the least important reasons why the West protests against the proposed leasing and water power bills.

The question is one which has direct bearing upon mining development and operation, and should receive the serious consideration of the convention.

Conservation

It is estimated that the available unused water power in the United States, without resort to storage is 66,518,500 H. P., that with storage 230,000,000 H. P. is possible. Less than 6,000,000 H. P. is developed and available for present use.

We are annually wasting about one-third of the coal reserves which are being exhausted. We are applying to beneficial use less than 10 per cent. of the inherent possible value of the 500,000,000 tons of coal which is being consumed.

The creation of restrictions to coal mining and the hampering of development of water power under the guise of conservation is a travesty, while the development of resources and the prevention of present waste, is real conservation. Under this head a discussion of the probable effects of the proposed federal leasing system will be presented.

Revision of Mineral Land Laws

A bill for the creation of a commission to recommend to Congress such revision as may be needed in our mineral land laws after public hearings in the West, was passed by the last U. S. Senate, but failed to pass the House of Representatives. There seems a growing belief that the investigations of the proposed Commission should include the questions involved in the leasing and water power bills, and that any legislation should include every phase of this subject and be enacted only after careful and thorough investigation.

Whether these questions should be treated as a whole or whether a patch-work system shall be followed, will justify a full discussion of the general subject.

Co-operation in the Coal Industry

Destructive competition is one of the controlling elements in creating an appalling condition in the bituminous coal industry. First, 2,500 lives are sacrificed and more than 100,000 men are injured annually, in the coal industry.

Second, approximately 200,000,000 tons of coal are wasted annually, being sufficient to exhaust about 35,000 acres of our best coal lands.

Third, more than 500,000 workmen engaged in the bituminous industry are idle more than 100 days each year.

Fourth, more than \$900,000,000 of capital engaged in the bituminous industry is idle more than 100 days each year.

The peculiar conditions surrounding this industry serve to aggravate these conditions which tend directly toward destruction of the small producers and the creation of a permanent monopoly in coal production. Complete cooperation between operator, miner and consumer is essential to the best results. The question is National, not local. It affects all of the people, not part of them. It is equally important to the coal consumer of the future and the operator of today. It is one of the vital public questions which needs solution.

Cooperation which gives the workman a fair wage, the operator a fair profit and the consumer a fair price, should be made possible even though this may involve an enlargement of the powers of the Federal Trade Commission.

Discussion as to the best means of accomplishing these results will be welcome.

Coal Exports

With the market price of coal lower than in any other large producing country, it would seem that export coals lying near the seaboard should absorb the trade of countries lying much nearer to us than to the countries which are now furnishing the larger part of the coal used. The Latin American countries during 1914, imported approximately \$96,000,000 worth of coal, of which the United States supplied less than 25 per cent.

The Federal Trade Commission is especially authorized to investigate conditions in competing countries which permit trade combinations, but lacks authority to approve similar combinations, in order that the business of this country may be put upon an equal competitive basis. A discussion of the means through which our export trade may be so developed as to serve the public good, will be welcome.

Arbitration, Mediation and Conciliation

The bitter feeling, the enormous destruction of property and, above all, the loss of life which has resulted from labor disputes should by some process be avoided without discouraging any proper effort by workmen to better their condition. The question is one which affects not only the parties involved, but the general public, in that every waste occasioned by strikes and lockouts must necessarily be paid for by some one, and usually by the consumer.

The enactment of the Clayton Bill by Congress, and the final adjudication of the Danbury-Hatters Case are two notable recent happenings. The one intended to relieve labor entirely, from the provisions of the anti-trust laws, the other to fix a responsibility not theretofore generally recognized.

The American Mining Congress should be able to discuss the principles involved in good temper, with a view to meeting the just demands of both sides of such controversies.

In the discussion of this most important question it is hoped to lay the foundation for constructive effort.

Workmens' Compensation

The reduction of the occupational hazards of mining to the minimum is a first duty. Second, it is important that proper provision shall be made for the widows and orphans of those whose lives are lost.

The great expense of conducting employers' liability insurance and the bad feeling which frequently grows from the settlement of losses under this plan, has led to workmens' compensation as a more satisfactory means. Workmens' compensation laws have been enacted in several states. In the making of these laws, efforts have been made to create conditions fair to both employer and employe. The experience under the operation of these laws should guide to more perfect enactments in such states as are yet to consider this subject. A report of our committee on workmens' compensation as a recommendation to other states will be considered.

Mine Taxation

The many different rules applied to the taxation of mines is sufficient proof that most of them are not correct in principle. An effort looking to a uniform system of taxation where similar conditions prevail, to the extent that it is successful, will be of benefit to the mining industry. A further report of the committee on mine taxation will be presented for the action of the convention.

Metallurgical Research and Mine Safety Stations

The enactment of the Foster Bill by the last session of Congress authorized the creation of ten metallurgical research and seven additional mine safety stations. The research stations are to be located in the metal mining sections, and are designed to find solution for the various problems of metal mining. A discussion of the means by which appropriations, to make this bill effective, may be secured from Congress will be welcomed.

Resolutions

Any member of the convention may introduce resolutions upon any subject relating to mining. Resolutions are read to the convention and without debate referred to the committee on resolutions, composed of one member from each state represented in the convention, selected by the delegates in attendance from such states. Members desiring to introduce resolutions are requested to submit them in advance and the secretary will gladly lend assistance in putting the resolution in proper form for consideration.

Resolutions submitted in advance will receive the special attention of the committee on resolutions.

AMERICAN MINING CONGRESS

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THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

SELBY SMELTER COMMISSION SUBMITS ITS REPORT IN SMOKE CONTROVERSY

**Director Holmes of Bureau of Mines, in Preface to Findings, Explains Why
Expert Investigators Under Direction of Government Command
Respect—Results of Parley May Avoid Extended
and Expensive Litigation**

One of the most important publications from the Bureau of Mines during the current fiscal year is the report of the Selby Smelter Commission. Dr. J. A. Holmes, director of the Bureau of Mines, is chairman of the commission; Edward C. Franklin, professor of organic chemistry at Leland Stanford University, and Ralph A. Gould, a widely known mechanical engineer, complete the commission.

The report covers 1,000 printed pages. Owing to the expense of printing this document, it will not be distributed gratis, but will be sold by the Superintendent of Documents for \$1.50 per copy. It probably will be six months before the proofs will be corrected and the printing complete.

WORK OF BUREAU

In his preface, Dr. Holmes says:

Smelter-smoke problems are among the first to receive attention by the Bureau of Mines in its endeavors to increase efficiency and lessen or prevent waste in the utilization of the mineral resources in the United States. The problems presented to the bureau included the determination of the actual economic waste involved in the escape of dust fume, and gas from the stacks of metallurgical plants, more especially those treating sulphide ores, as well as the damage to plants and animals and the creation of a public nuisance.

The work undertaken by the bureau involved the examination of conditions in the vicinity of smelting plants and the methods adopted or on trial to prevent the loss of valuable substances in smelter smoke and to prevent damage by the constituent fumes and gases; the determination of new uses or wider uses for those constituents wasted from lack of a market or inability to recover them at a profit by existing methods; and also the laboratory study of the fundamental physical and chemical reactions of those metallurgical processes that cause smoke and fume.

ALWAYS WILLING TO HELP

As in its investigations relating to the methods of increasing safety and health conditions in mines, so in its metallurgical investigations the Bureau of Mines endeavors to cooperate actively, as far as it can under the terms of its organic act, with Government and State bodies and with private organizations that are endeavoring to bring about such improvements in industrial methods and conditions as come within the scope of the bureau's purpose. Although the bureau is forbidden by law to make reports on mineral properties for private individuals, its engineers and chemists, as expert advisers for the Government, have done much work dealing with safety and efficiency in the development and utilization of the mineral resources of the country.

CAN AVOID LITIGATION

Moreover, the bureau has believed that much controversy and much needless and expensive litigation regarding damage to public interests by mines or by metallurgical plants

can be avoided by the appointment of commissions composed of unbiased experts who, from the knowledge of the principles involved, will determine with precision the essential facts and their relation to matters in controversy and will lay down findings that, because of the manner in which they have been formulated, will be accepted as final by the parties at interest. Absolute freedom of judgment is necessary for the success of such a commission. Expert testimony produced by either litigant is under suspicion by the other, but scientific and technical investigations by the Federal Government inspire confidence and findings based on such investigations command respect.

For these reasons when, as a result of protracted litigation between the Selby Smelting & Lead Co. and the citizens of Solano County, Cal., it was decided to refer to a commission the question whether the Selby company was violating the terms of a court injunction, the director of the Bureau of Mines, under instruction from the Secretary of the Interior, accepted the chairmanship of the commission, and various chemists and other employees of the bureau who had been or were engaged in work relating to smelter-smoke were authorized to facilitate the work of the commission by carrying on incidental investigations. Under this arrangement the commission benefited by the work of skilled experts, and the Government employees gained valuable knowledge and experience without the Government being subject to any additional expenditure.

SCOPE OF REPORT

This bulletin presents the report of the commission and the papers prepared by the various experts, which give the results of investigations undertaken by the commission and form the basis of its findings. The papers include detailed discussions, the effect of smelter-smoke on vegetation, by A. E. Wells, J. W. Blankinship and W. S. Jones, and on horses, by C. M. Haring and K. M. Meyer, and a review of local opinions, by C. B. Dutton. These papers are published essentially as presented to the parties at issue—the smelting company and the county officials—except that, in editing, certain changes of style have been made in compliance with the Government regulations and certain statements dealing with the testimony of witnesses before the commission have been modified or stricken out, the purpose being to present all essential facts relating to the questions submitted to the commission and to omit such opinions as did not rest on provable statements.

As here assembled, the report of the Selby commission is published by the Bureau of Mines as a contribution to the literature of metallurgical smoke in its relation to plant growth and to public health and comfort, and as an example of what is believed to be a satisfactory method of dealing with legal controversies over the damage caused by mining and metallurgical establishments.

The subject matter of the report will not be ready for release for several weeks yet.

EIGHTY-FIVE ENGINEERS ARE ENGAGED IN WATER RESOURCE INVESTIGATION

Eighty-five engineers are engaged in the field work being conducted by the water resource branch of the United States Geological Survey. Twelve hundred gauge stations are being maintained, at which the daily flow is being registered. The work is under the direction of fifteen district officers. Much of the information being gathered is of interest to miners, in that it covers power developed and shows where hydraulic mining can be conducted.

EXPLOSION-PROOF COAL CUTTING MACHINE APPROVED

The first approval granted by the Bureau of Mines to an explosion-proof coal-cutting machine has been extended to the Sullivan Machinery Co., of Chicago. The permit covers the following parts:

One explosion-proof electric motor; one explosion-proof starting rheostat and fuse; one explosion-proof cable reel.

The use of all these parts is considered to be essential to the permissibility of the equipment.

Spriggs Made Board Member

E. A. Spriggs, of Townsend, Mont., has been named a member of the State Industrial Accident Board by Gov. Stewart. Mr. Spriggs formerly was Lieutenant Governor of Montana and is one of the best-known mining men in the West.

To Open Boston Office

A sub-station of the Water Resource Branch of the Geological Survey will be opened in Boston, July 1. It will be in charge of Chas. H. Pierce. This office will be made the headquarters for studying the water resources of New England.

EXPERTS BELIEVE THAT LATENT BILLIONS ARE REPRESENTED BY WEST'S OIL SHALES

Bureau of Mines and Geological Survey are Jointly Working on Problem Which May Mean Much to Mining States—Experiments Give Further Proof For Theory That Petroleum is of Organic Origin

Imbued with the idea that the oil shales of the West represent billions in latent values, experts of the Geological Survey and the Bureau of Mines are burning much midnight oil in their efforts to learn more about them. Prof. C. A. Davis, who has charge of fuel technology at the Bureau of Mines, is conducting a careful series of experiments, to show that the shales are organic in origin. These experiments include painstaking work with the microscope.

PHOTOGRAPH SLIDES

Prof. Davis has photographed a large number of his magnifications which show clearly the presence of vegetable and animal matter. The shales abound in a low type of vegetable life which indicates that they were laid down in water. There is also evidence that some of the shales were formed in water close to the shore, as evidence of the proximity of trees exists.

These shales exist in enormous quantities in Utah, Wyoming and Nevada. The veins in some places are 3,000 feet thick. While the shales burn almost as rapidly as coal, they contain a very much higher percentage of ash. This precludes their development as a commercial fuel under present conditions. As the shales contain a high percentage of petroleum there is much hope that some means may be devised for its economic distillation. The prospect of this is more favorable in regions where there is no oil.

CHECK UP STRUCTURE

The investigation of oil shales is being conducted jointly by the Bureau of Mines and the Geological Survey. Dr. David White, chief geologist, has charge of the work for the Survey. Together with Prof. Davis, he is working out the

history of these shales. They are checking up the structure of the material being tested. Their work tends greatly to strengthen the theory that organic material is the source of petroleum.

MINING CONGRESS MEMBER

WHO IS A PHILANTHROPIST

One of the stalwart members of the American Mining Congress is "Uncle" Jesse Knight, of Provo, Utah. A recent inspection by a representative of the Mining Congress, of the Knight bank, the Knight stores, the Knight factories, the Knight offices and the Knight woolen mills, developed the fact that the operation of the woolen mills has shown a deficit of more than \$20,000 annually ever since they were put in operation. In response to the inquiry as to why he continues operation at a loss, Mr. Knight replied: "Well, it does seem foolish, but it gives employment to a lot of boys and girls who have no other way of making a living if we close them down. You see, Provo is not like a big city, where there is always other employment to be had." Is it any wonder that all the people call him "Uncle Jesse"?

Evans Visits Washington

Geo. W. Evans, of Seattle, spent several days in Washington last month conferring with officials here with regard to Alaska coal matters. Mr. Evans is an acknowledged authority on all matters pertaining to the Behring River coal fields. He is said to have a more comprehensive knowledge of this coal field than any other mining engineer. He is also familiar with the Matanuska coal field. He had charge of the work of securing samples of this coal for the Navy Department.

**ANTHRACITE COMPANIES
GET SURVEY STATISTICIAN**

**Edward W. Parker Will Conduct General
Information Bureau for Coal
Concerns**

**H. D. McCaskey Becomes Chief of Mineral
Resources—C. E. Leshner to Handle
Statistics**

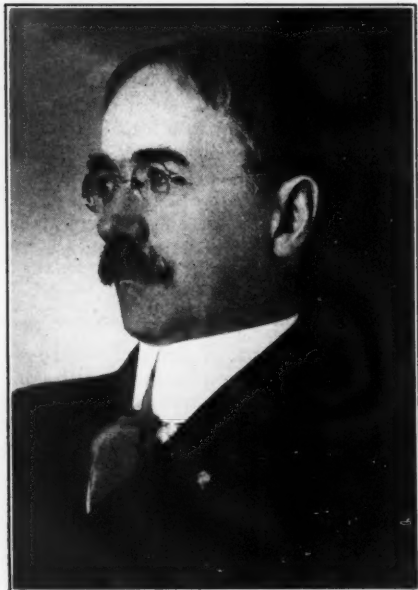
After many years in the Geological Survey, Edward W. Parker, coal statistician of the Government and chief of the Division of Mineral Resources, has resigned to take charge of a statistical bureau to be maintained by the anthracite coal companies.

One of the main objects of the bureau is to make available intimate information in regard to the anthracite industry and to attempt to educate the public in many of the matters pertaining to the mining and marketing of coal. The headquarters of the bureau will be at Wilkes-Barre, Pa. Mr. Parker's resignation will take effect July 1.



EDWARD W. PARKER

Who is to take an important post with the anthracite coal companies



H. D. McCASKEY

New Chief of Mineral Resources, U. S. Geological Survey

Mr. Parker is a native of Maryland. As a young man he went to Texas and for some time was connected with the *Austin Statesmen*. He came to Washington to assist in the work on the eleventh census. From the Census Bureau he was transferred to the statistical work in the Geological Survey.

In 1901 Mr. Parker left the Survey to become the editor of the *Engineering and Mining Journal*, of New York. He continued this work until appointed by President Roosevelt to serve on the Anthracite Commission in the latter part of that year. After the work of the Commission was completed he was returned to his old place in the Geological Survey.

Mr. Parker has been a frequent contributor of scientific and technical matter to trade papers, and has appeared often before technical societies in the presentation of the results of his statistical work. He was a member of the Jury of Awards at the World's Columbian Exposition at Chicago, and also at the St. Louis fair.

TAKES CHARGE JULY 1

H. D. McCaskey, who is the ranking member of the staff at the Division of Mineral Resources, will take charge of this portion of the work July 1. The coal statistics will be handled in the future by C. E. Leshner, who has been doing work in the Mineral Land Division of the Land Classification Board.

Mr. McCaskey has been with the Geological Survey since 1907. He was made a section chief in 1912. He is a geologist and mining engineer of reputation. He was connected with the Philippine Mining Bureau from 1900 to 1906. During the last three years of that time he was chief of the bureau.

Mr. Leshner is a graduate of the Colorado School of Mines. After finishing the work of that institution in 1908, he spent two years in British Columbia in electric zinc smelting, gold mining and milling. For a time he was connected with the American Nitrogen Co., of Joliet, Ill., and later with Michael Hayman Co., of Buffalo. He began the work with the Survey in 1910. For two and a half years he has been chairman of the Coal Board. During his work for the Survey he has done field work in connection with coal in North Dakota, Montana, Wyoming, Colorado, Oregon and Washington.

Insurance Company Liquidated

Liquidation of the Illinois Coal Operators' Mutual Employers' Liability Insurance Company was accomplished at a recent meeting. Despite the many difficulties under which the company labored throughout its career it was not insolvent. Referring to the passing of the company, *The Coal and Coke Operator* says: "This does not mean that the old company failed in the sense that that word is commonly used. It means merely that, with the pioneer work in mutual insurance done, a new company is thought the best solution, if the coal operators desire to have a company."

Work in Del Norte District

Two parties from the Geological Survey have begun topographical work in the Del Norte district of Colorado.



C. E. LESHER

Who will take charge of Coal Statistics, U. S. Geological Survey

**CALIFORNIA MINING BUREAU
ISSUES NEW PUBLICATIONS**

The California State Mining Bureau has just published a large map folio covering the petroleum industry of California. Its large maps are exceptionally well executed. A brief geologic record of California is given. Fossils, characteristic of California formations, are enumerated. Specimens of these fossils are photographed and made a part of this volume.

The California State Mining Bureau has also put into extensive circulation its Bulletin 69. It is entitled "Petroleum Industry of California," and is the work of F. McN. Hamilton, the State mineralogist. The book is bound in cloth and contains 519 pages. It contains numerous illustrations and many charts. The statistics are tabulated skillfully, making the data particularly available.

Maps Marble District

The Geological Survey is making a map of the famous Wetumpka marble district of Alabama.

HEAD OF BOARD TALKS ON LAND CLASSIFICATION

W. C. Mendenhall Says He Believes West Misunderstands Administration Plan

One of the most important activities of the United States Geological Survey in the Western States is the function of land classification; that is, a determination of the character of the lands. For instance, some of the public lands are most valuable because of the coal that they contain, others because of their oil content, still others because of some other mineral deposit. Of the non-mineral lands, some may be irrigated, others are chiefly valuable as public range, still others because of the springs that they contain or because of the power that may be developed from the streams that flow over them. There are special laws for the disposal of each of these classes of lands and before these laws can be administered the type of land must be determined. This task is that of land classification.

DUTIES HAVE GROWN

The organic law of the survey approved in 1879 mentioned, as one of the specific functions of the then new bureau, this function of land classification. The new bureau was a small one, the public domain then was very extensive, the public land laws were relatively simple, and this function of land classification was therefore not actively exercised at first. Gradually, however, succeeding Secretaries of the Interior have called upon the survey more and more for the assumption of its full duties under the organic act. Now the classification of the public land absorbs no small part of the survey's energies and requires in its performance a special organization within the survey, namely, the Land Classification Board.

W. C. Mendenhall, chief of the Land Classification Board, in discussing the present temper of the West in this regard, says:

"There seems to be a great deal of misunderstanding among the people of the Western States as to the effects and

purpose of some of the steps taken as incidents in the work of classifying the lands of the public domain. For instance, it seems often to be assumed by those who oppose withdrawals that these withdrawals are permanent, that they withhold the land affected from all types of use, and that they serve merely to interfere with development. This is a most mistaken idea. The most extensive withdrawals are those for coal land classification. More than 48,500,000 acres are now included in withdrawals of this type, but these withdrawals are temporary and withhold land only from acquisition under the coal land law until the character and quality of the included coal can be determined and prices can be fixed accordingly. Meanwhile, these lands are all open to acquisition under the homestead laws, the desert land acts, and practically all other non-mineral land laws. Agricultural development can proceed, therefore, as actively and with as little interference in the areas of coal withdrawals as elsewhere. But even these land are restored to entry under the one law whose operation is temporarily suspended by the withdrawal, namely, the coal land act, as rapidly as appropriate prices can be fixed upon the contained coal. These classifications are completed and restoration perfected at the rate of from three to ten million acres per year.

PUBLIC WATER RESERVES

"Let us consider another type of withdrawal, that of the so-called public water reserves. These are withdrawals of small areas surrounding springs on the public ranges. Their purpose is to keep these springs open to public use by preventing their acquisition by those who would fence them off and exclude stock from them. This is a device sometimes resorted to by rival stock interests who desire to exclude competitors from the adjoining range, that should be open to all, by controlling the water without which the range is useless. It is sometimes resorted to by those who would take advantage of the homestead law, not with any idea of creating a home upon the land, but solely with the idea of speculating upon the necessities of the stockmen who must have access to the

water in order to use the range. Many of the withdrawals of this type have been made as a result of petitions by citizens of the community affected, who realize that the welfare of that community is safeguarded and promoted by keeping these important watering places available for public use.

"Still another type of withdrawal whose purpose and effect which is widely misunderstood is that of water power sites. It seems to be considered generally that the withdrawal of a water power site prevents the use of that site for water power development. This is an entirely mistaken notion. Such a withdrawal, in general, protects the site from acquisition by those who would interfere with the development of the water powers or who desire to evade the water power law. When a bona fide applicant for water power privileges appears before the department with a request for permission to develop hydro-electric powers upon an area that is withdrawn, that permission is granted and the withdrawal is modified in so far as its modification may be necessary in order that the power site may be utilized.

"All the withdrawals are temporary in their nature and result, either, as in the case of the coal land law, simply in giving the department time to effect the necessary classifications, so that the nation's resources may not be given away at absurdly inadequate prices, or in the case of the public water reserves and the power site reserves in saving these lands for the use to which they are best adapted. All of the withdrawals give Congress time to consider the adequacy or inadequacy of the present laws for the disposition of these natural resources and to frame, if it deems that course wisest, better laws than those we now have. The past two or three sessions of Congress have given very serious consideration to this matter of the revision of our mineral and other public land laws, and it is apparent that new statutes will be enacted in the not far distant future that may alter materially the nation's method of disposing of its remaining natural resources."

MINING CONGRESS ALWAYS

READY TO HELP MEMBERS

Any member of the American Mining Congress is entitled to apply to the Washington office for any service which can be rendered. Matters will be laid before any department or will be taken up with the White House. Oftentimes more can be accomplished by personal interviews than by correspondence.

Washington has a wealth of reference facilities. These are at the service of the members of the American Mining Congress if anyone will acquaint the secretary with his desires.

The staff of the Washington office is always at your service.

PENNSYLVANIA WORKMEN'S

COMPENSATION LAW PASSES

The Pennsylvania Workmen's Compensation Law was passed by the legislature substantially as printed in the last issue of THE MINING CONGRESS JOURNAL. The law is being praised and condemned by its friends and enemies, respectively. Varieties of predictions are being made as to the success of the new law in operation, but it is yet too early for the public to have definite conclusions as to the new statute.

EXTENSIVE INVESTIGATION OF

PHOSPHATE ROCK IN PROGRESS

Extensive work is being done by the Chemical and Physical Research division of the Geological Survey in the investigation of phosphate rock in western Wyoming, Utah, Idaho, Tennessee, and Kentucky. In addition, investigation actively continues of western brines and saline deposits, in the effort to discover a domestic supply of potash. This division is also being very active in its work with carnallite ores in Colorado and Utah. It also has charge of the analysis of marine invertebrates to determine what each class contributes to marine limestone.

PUBLICITY PENETRATING DEEPER INTO BUSINESS

George Otis Smith Discusses Changing Attitude on Part of Industrial Companies

Makes Plea for Greater Utilization of Forces of Nature—Believes Earth is Still Young

In an address before the annual joint meeting of the Phi Beta Kappa and Sigma Xi societies of the University of Illinois, George Otis Smith, director of the Geological Survey, among other things made the following observations:

The bright light of publicity is coming to shine more and more upon the inner workings of all private business which has anything of the public service character. Only about three years ago, at a conference on water power policy, I heard the representative of the banking houses interested in the hydroelectric business tell the Secretary of the Interior with considerable warmth of spirit that one thing the men who make possible the development of our country by their contribution of capital would not stand for was any legal requirement of inspection of their accounts by the Government. A corporation has its rights, they continued, just the same as a private man in business. Last year in the same room, when the utilization of a large power site owned by the Government was being discussed, I heard those asking for the permit to dismiss the question of Federal inspection of their books with the remark: "That need not be discussed, our books, of course, will be open always to any authorized representative of the Government." The ultimatums pronounced by the ambassadors from Wall Street, State Street, and West Adams Street, are shortlived in the present atmosphere of popular interest in these business questions.

At another point in his address, Dr. Smith said:

It is simply axiomatic that the world has reached the stage where science has entered everyday life to a degree that even our fathers never dreamed. Physical forces and natural resources are harnessed to the use of man, and the miracle workers who can control these Titans are essential members of the body politic.

In conclusion the Director of the Geological Survey declared:

The most philosophic of American geologists, Prof. Chamberlin, after studying exhaustively climatic conditions in the long geologic past and after weighing carefully

the possibilities of disaster to our earth from collision with some star, has shown that we have good reason to measure the future habitability of the earth at millions or tens of millions, if not, indeed, hundreds of millions of years. Sharing Prof. Chamberlin's inspiring belief in the probability of racial longevity, do we not gain a real incentive to scientific research into the great utilization of the forces of nature, an added argument for the application of the truths of science to civic progress, and a larger faith that the Golden Age is in the future—that the highest development of our country and of the world is to be witnessed by those who are to follow us? Are not our ideals practical and is not such a vision a call to larger service?

The complete text of Director Smith's address is printed in the Sigma Xi quarterly for June.

DAILY MINING RECORD GETS OUT NOTEWORTHY NUMBER

Considerable comment has been caused in the East by the comprehensive analysis of present-day conditions in the Cripple Creek Mining Camp, as set forth in the recent Greater Cripple Creek edition of the *Daily Mining and Financial Record*, of Denver.

The special edition is profusely illustrated and contains a large amount of descriptive statistical matter.

One of the features of the publication is its signed editorials. They are contributed by a number of prominent men entirely familiar with conditions in the camp.

Tell How To Use Gas Waste

In an effort to prevent some of the waste of natural gas incidental to oil mining, the Bureau of Mines just has issued a bulletin on the condensation of gasoline from natural gas. The authors are George A. Burrell, Frank M. Siebert and G. G. Oberfell. The condensation of gasoline from natural gas offers to the oil operations a profitable means of utilizing some of the oil well gas now being wasted. The bulletin describes practical ways in which this can be done.

Map Kentucky Coal Fields

Two Geological Survey parties are cooperating with the State geologist of Kentucky in mapping the coal fields in the southeastern part of that State.

APPARATUS FOR TREATING LUMPY COPPER ORE IS PATENTED

Bernard MacDonald, of Los Angeles, Devises Process Claimed to Have Especial Merit in Treating Granulous Ore—Victor, Colorado, Man Devises Ore Grinder With a Plurality of Disks—Other Patents.

Patents of interest to the mining industry have been granted during the past month as follows:

Apparatus for treating ores, No. 1,139,428. This invention is by Bernard MacDonald, of Los Angeles, Cal. Mr. MacDonald claims to have devised an apparatus for treating crude or roasted porous ores, especially copper ores of a granular or lumpy character, which may be leached by percolation through a mass of ore or water, or a solution of a suitable chemical. It is also the intention to provide means whereby air or a suitable gas may be introduced into the mass of ore during the course of the leaching operation to facilitate the mechanical reaction necessary for dissolving out the metals from the ore.

In part, the description of the invention is as follows:

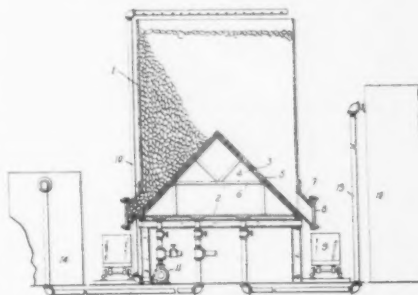
A combination of a tank provided with a water-tight bottom, an inclined perforated false bottom within the tank, forming a chamber between it and the water-tight bottom, into which chamber the liquid with which the ore is treated will percolate. A transfer pipe at its lower end communicating with the chamber, and has its upper end arranged to deliver the liquid into the tank at the top, means is provided to force the liquid to flow upward through the transfer pipe and discharge upon the ore within the tank. A precipitation tank and a receptacle for gas also are provided.

ROTARY ORE GRINDER

Ore grinder, No. 1,138,966. This invention is by Edward F. McCool, of Victor, Colo. Mr. McCool has devised a machine in which a plurality of discs is employed. One of the discs is stationary. The others are capable of a combined rotary and rocking motion. The invention provides for the convenient removal and replacing of the disks, and means of adjusting the movable disk in order to vary the quality of the ground product.

In part, a description of the invention follows:

A sleeve and means for driving it. A shaft eccentrically supported within it. Means for transmitting the motion of the sleeve to the shaft. A grinding disc pivotally supported by the end portion of the shaft and means carried by the shaft to rotate the disk. Means are provided for further locking the discs together. It is also provided with a grinding disc having two arms extending laterally from a point opposite its center, the clutch disc has a portion of its face hollowed out, pro-



NEWLY INVENTED PLANT FOR TREATING LUMPY ORES

jections extending inwardly from the rim into the hollowed out portion. The arms of the grinding disc are adapted to bear against the projections and under the spring members of the clutch disc.

FACILITATES CAR UNLOADING

Coal Breaker and Scraper, No. 1,138,627. This invention is by Joseph P. Considine, of Detroit, Mich. Mr. Considine claims to have devised an improved means for easy and rapid unloading of a car of slack or largely pulverized coal, in spite of the tendency of such material to harden and cake when damp and particularly in freezing weather.

In part, the invention is described as follows:

It has a combination with a supporting trackway, a traveling carriage provided with toothed wheels adapted to engage correspondingly located indentations on the trackway, a boring spud slidably held in vertical position by the carriage with flexible means for supporting the spud at the desired elevation with respect to the carriage, means for causing an impacting downward movement of the spud without objectionable transmission of the shock to the traveling carriage and adapted to be actuated after the driving of the spud has been completed, whereby the toothed wheels of the carriage are positively rotated to cause the movement of the carriage along the trackway.

ORE SEPARATOR

Ore Separator, No. 1,139,064. This invention is by Hugh H. McGovern, of Oak Grove, Cal.

Mr. McGovern claims to have devised certain new and useful improvements for ore separators. The invention has relation, in particular, to an ore separator of the centrifugal type, and the object of the invention is to provide for improved means whereby the ore will be operated upon in a thorough and effective manner to secure maximums of results. The invention is described in part as follows:

A centrifugal ore separator comprising of a body mounted for axial rotation, a bowl secured to the body and a second bowl nested within the first and operated therefrom. The bottom of the inner bowl is substantially open. Each of the bowls is provided with a surface adapted to the retention of valves. The bowls are positioned so as to subdivide the pulp. Each is adapted to concentrate separately its respective portion.

LEACHING PROCESS

Process of Leaching Ores, No. 1,137,874. This invention is by Jasper A. McCaskell, of Salt Lake City, Utah. Mr. McCaskell claims to have devised a process for leaching gold, silver and copper ores and then regenerating the solvent.

In part, the invention is described as follows:

The process consists, essentially, in producing chlorine gas electrolytically from metallic sodium chlorides, using the chlorine thus produced to chlorinate the metals in the ore that is being treated, and subsequently electrolyzing an aqueous solution of the chlorides in the cathode side of the electrolytic cell, thereby regenerating the original sodium chloride, the metals in the solution being deposited on the cathode side of said cell.

INVENTS MILL

Mill for Treating Ores, No. 1,139,064. This invention is by Albert V. Park, of South Melbourne, Australia. Mr. Park claims to have devised new and useful improvements for the pulverization of ores and like substances.

Hitherto it has generally been necessary to break the ore to a predetermined size, then to crush it to a comparatively small size, and finally to grind it to a very fine condition. The ore has then been treated for the recovery of the precious metals it contains.

In pulverizing ores previously a stamper battery has generally been employed wherein a reciprocating stamper head repeatedly falls upon the broken ore and is partially rotated during each elevation so that as it descends a different portion of the head is presented to the ore with each blow in order to equalize the wear and tear upon the head. The stamper head upon encountering the ore immediately comes to rest as its operating devices provide an intermittent action only. Further, as the stamper head descends repeatedly upon the ore that which is disintegrated sometimes serves an adverse purpose in providing a pad

for the larger ore above it. Still further, the box containing the ore usually contains also several inches of water through which the stamper head must pass before reaching the ore. This water offers resistance to the head, a battery being on the whole very uneconomical in practice. In present day treatment, also, there are certain classes of sands and tailings from which precious metals cannot be extracted because it is impossible to reduce the material economically to a sufficiently fine state or regularity of size. In reducing ores preparatory to the recovery of their precious metals it is necessary for the ore to be of even and regular size, the greater the regularity the more economical being the recovery. The fineness or size depends upon the class of ore.

It is recognized by most authorities that to economically reduce ore it is necessary to systematically and automatically feed the ore to whatever reducing devices are employed and to just as systematically and automatically discharge the material as it is reduced to the size desired. This, however, has never been actually attained in practice.

The object of this invention is to provide a single apparatus wherein ore may be positively reduced much more cheaply and expeditiously than hitherto and wherein the ore is reduced to a maximum uniformity and, if necessary, to an exceptionally fine state, it being desirable to secure uniformity if a maximum recovery of the precious metals is to be obtained.

By the invention the first cost and also the cost of maintenance is reduced and the cost of transport, installation and labor greatly lessened. In addition, far more material may be treated in a given time and the precious metals recovered from the comparatively quickly reduced ore in a far greater percentage than has previously been thought possible. For example, it has been proven that with the use of the present invention, tailings may be expeditiously treated and precious metals in payable quantities recovered from the finely pulverized material although the said material has previously been discarded as unworkable with profit. So efficient is the apparatus in reducing ore that in many instances it is possible to dispense with certain expensive treatments at present practiced. The major causes of the economy and efficiency of the present invention reside in the action of the reducing devices, in the systematic and automatic feed of the ore to the said reducing devices and in the discharge of the reduced material therefrom.

The invention in effect embodies the functions of a rock breaker, stamper battery and grinding device in one apparatus.

In part, the following claims are made for this patent:

It comprises of an inner and outer disintegrator each having a percussive and a rotary action upon the ore. The disintegrators have means to discharge automatically the ore as it is reduced. Means for automatically

feeding successive charges of ore to the disintegrators is provided. A sprayer for preventing dust arising during reduction of the ore is provided.

MINIMIZES GALVANIC ACTION

Metallurgical Apparatus, No. 1,138,284. This invention is by Henry B. Faber, of Brooklyn, N. Y. Mr. Faber claims to have devised a means of minimizing galvanic action, and thereby obviating corrosion incident to contact of dissimilar metals in the presence of a dissociating solution.

In this connection Mr. Faber makes the following statement:

It is commonly known that practically all metals and their alloys are unable to withstand the contact of acids or alkalis. Dissociation of the metallic ion or ions, as the case may be, occurs in varying degrees according to the nature of the solvent. I have found, however, that "hard lead," that is, lead alloyed with a little antimony, and commonly known on the market as "type metal" will withstand the corrosive action of solvents to a greater extent than any other alloy. Certain bronzes also show a substantial resistance to the action of dissociating solvent. When, however, bronze and hard lead are caused to contact in the presence of such solvent, galvanic action occurs which has the effect of greatly increasing the action of dissociation. To avoid such galvanic action and its objectionable results, I have found it necessary to prevent contact of such dissimilar alloys or metals as otherwise naturally resist largely the dissociating effect of alkaline or acid solvents. To space the dissimilar alloys or metals by an intervening metal different from either, and of any of the common metals subject to ionizing in the presence of solvent, would only complicate the problem presented, and I have, therefore, after careful experimentation discovered that by separating hard lead and bronze, for example, by an interposed sheet or lamination of some substantially non-corrosive substance which may serve as an insulator, the galvanic action will be largely or entirely obviated, and I find that tantiron and duriron effectively serve as such insulating lamination, and at the same time where relative movement occurs between the two insulated bodies such lamination aids in preventing scoring of the contiguous faces of the parts by particles of silicious or other materials working their way between the relatively active surfaces.

Distribute Roberts' Book

A number of important coal mining companies are distributing to their men copies of a booklet by Wightman D. Roberts, of Huntington, W. Va. The work is entitled "The Man With a Job." It is a clever exposition on the value of having continual and remunerative employment.

NEW REFERENCE WORK TO BE WORTH THOUSANDS TO MINERS

One of the most important publications yet to be issued by the Bureau of Mines is to come out shortly. Two volumes of 1,000 pages each will be devoted to a compilation embracing every statute or act ever passed by Congress having to do with metal, iron, gas or coal. It will be known as "United States Mining Statutes Annotated."

The annotations consist of abstracts of decisions of all courts of the United States, Federal and State, as well as decisions of the Land Office and of the Attorney General.

These volumes are the result of long and pains-taking work on the part of Judge J. W. Thompson, chief of the legal section of the Bureau of Mines. In the opinion of competent authorities, this work will be worth many thousands of dollars annually to owners and operators of mines.

The last of the proof has been corrected on each of the volumes and the finished work is expected to come from the press of the Government Printing Office within the next thirty days. Owing to the heavy cost of printing, this work will not be distributed gratis. It is a sale publication, to be sold at cost, which will be \$1 or \$1.50 for the two volumes.

TO HELP MAKE AWARDS

Bureau of Mines Men To Be on Jury at Panama Exposition

G. S. Rice, of the Pittsburgh branch of the Bureau of Mines, and Dr. F. G. Cottrell have been appointed on the international Jury of Awards at the Panama-Pacific Exposition. The jury will sit May 10 to May 20. On their return from San Francisco they will visit stations of the Bureau of Mines. They also will confer with officials in Illinois concerning cooperative work and also will talk with Edwin Higgins in regard to the investigation of rock dust in the Joplin mines.

GEOLOGICAL SURVEY READY TO AID IN PUBLIC WORK

Director Smith Refutes Charge That His Bureau has Infringed on Private Engineers

Considerable interest has been aroused by discussion in some of the engineering papers regarding alleged unfair competition by the Geological Survey with private engineers. The matter is of particular interest just at this time as the same charges are being made as to the activities of various Government departments.

A contract opened for bids recently in Harris County, Tex., is the basis of the present discussion. Director George Otis Smith, of the Geological Survey, states that the contract in Harris County is public work, and that it is the intention of the Geological Survey to cooperate with any Government agency, be it Federal, State or county, wherever possible. He states that no ground has been given for the charge that the Survey has invaded the field of private engineers.

Brown & Clarkson, of Washington, topographic engineers, who were among those bidding on the Harris County contract, take the stand that the Survey has invaded a domain which is legitimately that of the private engineer. This firm makes the following statement of its case:

"In January and February of the present year the county commissioners of Harris County, Tex., advertised for bids for the making of a topographic survey of their county and for drainage report and plans based on that survey. Fourteen bids from private engineers or engineering firms were received and were opened February 10.

"While these bids were being considered, the U. S. Geological Survey, which had been in correspondence with the Houston Chamber of Commerce through a member of Congress, submitted a proposition for the making of the topographic survey, making the proposition so attractive by offering to contribute \$5,000 towards the cost of the survey and free use of instruments, that the offer was accepted and the fourteen bids rejected.

"In doing this the U. S. Geological Survey entered directly the domain of the private engineer, and by the use of government funds and prestige is enabled to overcome any competition that the private engineer might be able to offer in such work.

"It is our hope that, by placing this matter before the engineers of the country, they will demand that the limits of activity of the U. S. Geological Survey be so defined and

limited that other cases of unfair competition similar to the Harris County affair will be rendered impossible."

Director Smith has discussed the matter in detail with those inquiring, and in addition has written several letters setting forth the position of the Survey. He points out that the Harris County work differs in no essential features from various other activities of his bureau in the past and at present. He emphasizes the fact that it is the duty of the Survey to cooperate in public works wherever possible.

THINKS MINING CONGRESS JOURNAL OCCUPIES FIELD NOT COVERED HERETOFORE

With reference to THE MINING CONGRESS JOURNAL, E. G. Reinert, the general manager of *The Daily Mining and Financial Record*, of Denver, has written the following:

"We are very much impressed with the real merit from a journalistic standpoint of THE MINING CONGRESS JOURNAL and congratulate you upon the good work it is doing in a field largely beyond the work of any other mining publication devoted to the mining industry. The wide range of topics covered relating to the politics and economics of mining is a most timely and useful branch of education for the benefit of mining men generally. It is both fitting and timely that the official organ of the greatest legislative organization in America devoted to a single industry, the American Mining Congress, should be sponsor for such a publication as the MINING CONGRESS JOURNAL, and the independent contemporary mining press of the country should cooperate thoroughly with its publishers."

Reports Being Delayed

A number of important reports which have been made to the Bureau of Mines are being delayed seriously due to the small amount of money available for printing.

Completing Mogollon Work

Field work will be completed early in June on a survey being made in the neighborhood of the Mogollon Mines, New Mexico.

**BUREAU OF MINES EXHIBIT
ONE OF FAIR'S FEATURES**

**Acting Director Manning Returns from Trip
to Coast—Tells of Success of
Mine Display**

**Visits Western Stations and is Encouraged
by Marked Success of Important
Work**

After a month divided between the western stations of the Bureau of Mines, Van H. Manning, acting director of the Bureau of Mines, has returned to Washington enthused with the success that is attending the work at the stations, and convinced that the bureau's exhibit at the Panama-Pacific Exposition is the banner display at that assemblage of master efforts. With reference to the exhibit, Mr. Manning said:

"'The Mine' adjunct to the Bureau of Mines exhibit, is one of the features of

the San Francisco Fair. Every day at 2 p. m. the Bureau of Mines rescue truck, with its crew, is put into service. At the glass smoke gallery the members of the crew put on their helmets and do the identical work that would be required if an explosion in an actual mine had taken place.

"The explosions attract great crowds. On one afternoon during my visit no less than 12,000 persons gathered to witness the work of the rescue crew. A man representing a victim of an explosion is carried from the mine, and first-aid treatment given him. The whole thing is so conducted as to convey vividly to the public the actual procedure in time of a mine disaster. The mine model is a clever representation of a typical underground working. Even the odor of dampness is present. It is realistic and doubtless will be a very effective means of educating the public as to the benefits accruing from this portion of the Bureau of Mines activities.



EXPERIMENTAL EXPLOSION OF COAL DUST

Showing how Bureau of Mines produces conditions of an explosion in a mine for experimental purposes.

INTEREST IN COTTRELL EXHIBIT

"The exhibit showing the Cottrell method of fume precipitation is attracting decided interest. The Merrill exhibit is of great merit.

"Splendid results are being achieved at the Salt Lake experiment station, where the low grade ores of Utah are being studied in cooperation with the University of Utah.

"Work is progressing very satisfactorily at the Denver station. To date, 754.2 milligrams of radium element have been delivered to the National Radium Institute.

"Encouraging work is resulting from the commercial development of the Rittman discoveries at Pittsburgh. The Aetna Explosives Co. is cooperating in this work, and is making extensive improvements in its plant for the handling of this work. The company is now erecting furnaces to have a capacity of 42,000 gallons of petroleum per day. The output of benzol will be approximately 3,000 gallons daily."

During Mr. Manning's absence in the West, Charles L. Parsons, the chief of the division of mining technology, was in charge of the Bureau.

Survey Correspondence Increases

Evidence of general appreciation of the work of the Geological Survey is had in the rapidly increasing amount of correspondence with those interested. This is having the effect of making the statistics considerably more accurate and aiding in the general plan of cooperation.

To Instruct Miners Gratis

Free instruction along safety-first lines, and with a view of promoting the technical efficiency of mine workers and those employed in industrial plants, is to be given in a class recently formed in connection with the Illinois Miners' and Mechanics' Institutes at O'Fallon, Illinois. Mine gases, safety lamps, ventilation of mines, explosives and surveying are included among the subjects to be discussed.

**EXTENSIVE TOPOGRAPHIC
WORK TO BEGIN JULY 1
IN RADIIUM ORE DISTRICT**

Topographical work in the Naturita district of southwestern Colorado will be begun July 1, by the Geological Survey. Owing to the presence of radium ores in this district, the need for this survey has been pressing for some time, and it will be pushed to completion as early as practicable.

**GUIDE BOOK OF WESTERN
ROUTES NEARS COMPLETION**

Work on the guide book to the Western United States, which is being prepared by the Geological Survey, is nearing completion. The description of the Overland route is all in type, and is expected to be completed early this month. The Northern Pacific portion of the work is also well advanced, and is in the hands of the public printer. The Santa Fe and Coast routes have been transmitted for printing.

**MINING CONGRESS JOURNAL
COMMENDED BY DR. HOLMES**

With reference to THE MINING CONGRESS JOURNAL, Dr. J. A. Holmes, Director of the Bureau of Mines, made the following observation in a recent letter:

"I am writing to express my appreciation and my hearty commendation of the character and general make-up of the MINING CONGRESS JOURNAL. This is a thoroughly creditable publication."

Examine Oklahoma Mines

A large number of the mines on Indian lands in Oklahoma have been examined by Daniel Harrington and J. J. Rutledge, of the Bureau of Mines, in order to determine the application of the order in regard to the use of permissible explosives.

School of Mines Opens

Encouraging reports of the new Tonopah School of Mines have been received. Ellsworth R. Bennett is in charge of the work.

QUALIFIED INJUNCTION AGAINST COPPER SMELTING COMPANIES GRANTED

Supreme Court Hands Down Decision in Hard Fought Case Between State of Georgia and Tennessee Copper Company and The Ducktown Sulphur Copper and Iron Company—Stewart Mining Company Decision

Conditions under which the Tennessee Copper Co. and the Ducktown Sulphur Copper Co., Ltd., may operate their plants were laid down by the Supreme Court in a recent decision. While a qualified injunction was granted against the two mining companies, it will permit of continued operation of their plants on nearly the same scale as before.

One notable feature of the case is that the Chief Justice, Justice Holmes and Justice Hughes dissented from the opinion of the court, which was rendered by Justice McReynolds. In dissenting, Justice Hughes said: "I do not think that the evidence justifies the decree limiting production as stated."

The full opinion of the court is as follows:

Both defendants are smelting copper ores in Polk County, East Tennessee, near the Georgia line. The works of the Tennessee Company, much the larger of the two, are situated within half a mile of the line; those of the Ducktown Company are some 2 1-2 miles away. The ores contain a very large amount of sulphur—around 20 per cent.—and in the process of smelting great quantities of sulphur dioxide are formed; if allowed to escape into the air this becomes sulphurous acid, a poisonous gas destructive of plant life.

In October, 1905, the State of Georgia began this original proceeding, alleging that defendants permitted discharge from their works of noxious gases which being carried by air currents ultimately settled upon its territory and destroyed the vegetation, and asking for appropriate relief. The case was heard on the merits and the issues determined in complainant's favor, May, 1907. We then said: "If the State of Georgia adheres to its determination, there is no alternative to issuing an injunction, after allowing a reasonable time to the defendants to complete the structures that they now are building, and the efforts that they are making, to stop the fumes. The plaintiff may submit a form of decree on the coming in of this court in October next." 206 U. S. 230, 239.

Hope was entertained that some practical method of subduing the noxious fumes could be devised and by consent the time for entering a final decree was enlarged. Both companies installed purifying devices. The Tennessee Company and the State finally entered into a stipulation whereby the former undertook annually to supply a fund to compensate those injured by fumes from its works, to conduct its plant subject to inspection in specified ways, and between April 20 and October 1 not to "operate more green ore furnaces than it finds necessary to permit of operating its sulphuric acid plant at its normal full capacity." The State agreed to refrain from asking an injunction prior to October, 1916, if the stipulation was fully observed. The Ducktown Company and the State were unable to agree, and in February, 1914, the latter moved for a decree according a perpetual injunction. Consideration of the matter was postponed upon representation that conditions had materially changed since 1907, and leave was granted to present additional testimony "to relate solely to the changed conditions, if any, which may have arisen since the case was here decided." A mass of conflicting evidence has been submitted for our consideration.

The Ducktown Company has spent large sums—\$600,000 and more—since the former opinion in constructing purifying works (acid plant); and a much smaller proportion of the sulphur contained in the ores now escapes into the air as sulphur dioxide—possibly only 41½ per cent. as against 85½ per cent. under former conditions. Similar improvements have been installed by the Tennessee Company at great expense, but we are without adequate information concerning the effect produced by them. As it asked and was granted opportunity to show material changes, the burden is upon the Ducktown Company. A full and complete disclosure of the improvements installed by it and the results continuously obtained have not been presented.

Counsel maintain that escaping sulphur fumes now produce no substantial damage in Georgia, and further that if any such damage is being done the Tennessee Company alone is responsible therefor. We think the proof fails to support either branch of the defense, and the State should have a decree adequate to diminish materially the present probability of damage to its citizens.

The evidence does not disclose with accuracy the volume or true character of the fumes which are being driven off daily from the works of either company. Averages may not be relied on with confidence since improper operation for a single week or day might destroy vegetation over a large area, while the emission of great quantities of fumes during a short period would affect but slightly the average for a month or year.

It appears that in 1913 the total ores smelted by the Ducktown Company amounted to 152,249 tons, or 304,498,000 pounds—20 per cent. sulphur; total matte shipped was 12,537,000 pounds—about 4 per cent. of the ore; the total sulphur in the smelted ores not accounted for and which escaped into the air in the form of dioxide was 13,102 tons, or 26,204,000 pounds—over 2 pounds of sulphur for each pound of matte and an average of more than 35 tons per day.

During July, 1913, the total matte shipped (approximately the production) was 846,000 pounds—more was shipped in June and less in August. The July production was thus approximately 7 per cent. of the year's total. The sulphur in the fumes generated in connection with the production for this month, not redeemed by the acid plant and emitted into the air, may be fairly estimated as not less than 7 per cent. of 13,102 or 917 tons—substantially 30 tons per day. This amount produced harmful results and must be diminished.

It is impossible from the record to ascertain with certainty the reduction in the sulphur content of emitted gases necessary to render the territory of Georgia immune from injury therefrom; but adequate relief, we are disposed to think, will follow a decree restraining the Ducktown Company from continuing to operate its plant otherwise than upon the terms and conditions following: (1) It shall keep daily records showing fully and in detail the course and result of the operations. (2) A competent inspector to be appointed by this court shall have access to all the books and records of the company, shall make frequent careful observations of the conditions—at least once each fortnight—during the next six months, and at the end of that time shall make full report with appropriate recommendations. An adequate sum to cover the necessary costs and expenses must be deposited with the clerk by the company. (3) It shall not permit the escape into the air of fumes carrying more than 45 per cent. of the sulphur contained in the green ore subjected to smelting. (4) It shall not permit escape into the air of gases the total sulphur content of which shall exceed 20 tons during one day from April 10 to October 1 of each year or exceed 40 tons in one day during any other season.

The cause will be retained for further action and either party may apply hereafter for appropriate relief.

Within ten days either side may present a decree in conformity herewith, together with such suggestions as seem desirable.

IDAHO COURT UPHELD

Supreme Court Hands Down Decision in Stewart Mining Co. Case

The judgment of the lower court was affirmed by the Supreme Court in the case of the Stewart Mining Company versus the Ontario Mining Company, Stanley A. Easton and Myron A. Folsom. Extracts from the decision follow:

The contest is between the mining companies as to certain ore bodies lying beneath the surface of the mining claim of defendants, called the Ontario. Plaintiff asserts ownership to the ore bodies by reason of being owner in fee and in possession of a quartz lode mining claim named the Senator Stewart Fraction Lode Claim. The plaintiff prayed for an accounting and for an injunction against the further mining or extracting of the ore.

Defendant's answer set up opposing contentions and denied the rights alleged by plaintiff. In a cross-complaint defendants asserted title and prayed that it be quieted against the claim of plaintiffs. The judgment of the trial court responded to this prayer. The judgment was affirmed by the Supreme Court of the State.

The statute would seem to call for no effort of construction, and the distinction which obtains in the parlance of miners and in the cases, between the strike or course and the dip of a vein, is compelled by the statute and marks accurately the linear and extra-lateral rights of a location. This certainly, as far as any language can do it, expresses the distinction which must be observed, however, various may be the natural conditions. In other words, the strike and the dip of a vein must not be confounded nor the rights dependent upon them confused.

What, then, do they determine in the present case? The plaintiff asserts, as we have seen, that the vein has its top or apex within one of its claims (the Senator Stewart Fraction Lode) and asserts further that the vein extends downward beyond the side lines, within the limits of the end lines extended vertically, to and beneath the claim of defendants, and includes the ore bodies mined by the latter.

These are the facts as found by the trial court:

"That no part of the apex of the said ore bodies lies within the lines of the Senator Stewart Fraction lode mining claim.

"That the plaintiff is the owner, in the possession and entitled to the possession of the Senator Stewart Fraction lode mining claim described in the complaint, with the exception of that part thereof in conflict with the Quaker lode mining claim, which conflict is not material to any issue involved in this case.

"That within said Senator Stewart Fraction lode mining claim there is a vein or lode of mineral-bearing rock in place which on its onward course crosses the south side line of said Senator Stewart Fraction lode mining claim, and has a course about North 30° East, and the said vein on its onward course does not reach any other line of said claim. That the said vein is cut off on its onward course by a large fault near the north line of said claim, called the Osburn fault in this case. That the said vein on its downward course passes underneath the east line of said claim, which is described in the patent as the end line of said claim, which line connects Corners 1 and 2 of said claim. That the fault which cuts off said vein on its northerly end has a northwestwardly and southeastwardly course and dips southwestwardly. That the end of the vein against said fault has a course North 41° West. That the end of said vein against said fault has a steeply inclined downward course southeasterly.

"That the end of the vein as the same is terminated on the onward course of the said vein against the fault hereinbefore referred to is the end of the vein on the line of its dip, and the said vein is undercut by the said fault in such manner that if the country below the fault was eroded, it would present the appearance of an overhanging cliff.

"That the said fault which terminates the said vein upon its onward course is a fault of great magnitude, and for a short distance above the fault has disturbed and broken and slightly deformed the vein, and enclosing rocks in close proximity (proximity) to said fault in some places for a greater distance from the fault than in others. That the vein is also at various places cut by other faults which tend in places to flatten the vein somewhat upon its downward course.

"That the said vein is continuous on its onward course from the line of contact with the said great fault in this case called the Osburn fault southerly to the ore bodies within the Ontario lode mining claim and has been followed upon the level in the drifts by the miners from the said edge of the vein to the ore bodies in the Ontario mining claim.

"That the top or apex of said vein which on its onward course crosses the south side line of said claim is practically level."

The Supreme Court affirmed the findings and added that the end of the vein against the Osburn fault was "turned, curled or cupped upward, caused by the disturbance which created the fault and cut off the vein." And also said: "It further appears that this vein is undercut by the Osburn fault in such a manner that if the fault were eroded or washed away, it would leave the vein standing out as an overhanging cliff."

The next contention of plaintiff is that there is neither allegation nor proof of the discovery vein in the Senator Stewart Fraction claim but that a presumption arises from the patent that a discovery was made and the claim properly located with reference thereto.

In other words, that a discovery vein existed and that the claim was located lengthwise with it, and that the first presumption is conclusive, and the other also, in the absence of anything to the contrary appearing. And it would seem to follow from the contention that the presumption includes as well the position of the apex and other attributes necessary for the assertion of extra-lateral rights. It would, indeed, be difficult to entertain such a presumption in view of the conduct of the plaintiff, its pleadings and testimony and the careful investigation and consideration which the State courts gave to the case. We may omit, therefore, a detailed consideration of plaintiff's contention. The rights asserted in the pleadings and to which the testimony was directed to sustain were based upon the possession of the vein which we have described. *Stewart Mining Co. v. Bourne, supra.* Judgment affirmed.

First Aid Contests

First aid contests in the Southwestern district have been held as follows: Ft. Worth, Tex., April 24; Ft. Smith, Ark., May 18; McAllister, Okla., May 22; Pittsburgh, Kan., May 25. Contests are to be held in Moberly, Mo., June 1 and in Des Moines, Iowa, June 5. The winning teams in the State meets are to meet in an interstate contest to be held in Kansas City, probably in September. The winning team in the interstate contest will be sent to the Panama Pacific Exposition. All the expenses connected with the trip to Kansas City and the trip to San Francisco will be paid by the Southwestern Coal Operators' Association and the Miners' Union.

Tabulates Accidents

In *The Anode*, published by the Anaconda Copper Mining Co., of Butte, Mont., space is being given to a detailed table of accidents. It shows the department in which the accident took place, with the names of the superintendent and the foremen. The number of accidents is placed opposite the name of each foreman. In this connection a table is carried showing the increase and reduction of accidents in the different departments.

Christmas District Mapped

The work of mapping the Christmas mining district of Arizona just has been completed by the Geological Survey.

FORTUNES IN PEAT BEING OVERLOOKED, IT IS SAID

**Prof. C. A. Davis, of Bureau of Mines, Says
Fuel Exists Commercially in Many
States**

**Frequent Failure to Make Business Pay Due
to Well Understood
Causes**

It is the belief of Prof. C. A. Davis, in charge of fuel technology for the Bureau of Mines, that peat exists in commercial quantities in many parts of the United States. He is conducting a line of experiments in the hope of convincing the public that this fuel, so extensively used in Europe, can be made a source of great profit in this country.

APPROPRIATIONS LIMITED

Investigations of this source of fuel have been handicapped greatly in this country by the very limited appropriations which have been allowed for investigation. As it is, however, an accumulating amount of evidence is being gathered to show the possibilities of this industry. There are a number of small plants in operation in Massachusetts, Maine, Michigan, Iowa and California. Most of them represent small investments and no effort has been made to produce peat on a large scale, with the consequent reduction of costs.

Prof. Davis is keeping abreast with the industry in all parts of the world. He has visited many of the peat producing centers in Europe and has given particular study to those of Russia, North Germany and Sweden.

In the light of his wide experience, Prof. Davis declares that the industry has been held back by the failures which have attended a large number of projects for exploiting this fuel. Many cases are on record where persons insufficiently experienced and with wholly inadequate capital have embarked in the peat industry. The natural result has been failure, which has tended to discourage others from undertaking similar developments. As the fuel is not generally known, the matter of finding a market and instructing the public in its

use, is necessarily preliminary work, which must not be overlooked.

IS IMPORTANT RESOURCE

Prof. Davis makes the unqualified statement that the peat deposits of the United States form one of the most important of its undeveloped resources. He expects to see this fuel receive much attention due to the increasing use of gas producing engines.

Prof. Davis is now preparing his annual report on the production of peat in 1914.

SHIPMENTS OF RADIUM FROM DENVER CONTINUE

**Use of Element in Therapeutics Becoming
More Effective Every Day,
It is said**

Another shipment of radium has been received by the Bureau of Mines from its Denver laboratory. The last shipment consists of 288.2 milligrams of radium element. This is worth \$120 per milligram.

Due to the war, the output of radium has been curtailed greatly. Apparatus of French manufacture which is necessary for crystallization cannot be secured. As a result of this, other methods of crystallization are being developed.

The war has resulted in a complete stagnation of the radium market, and prospecting has been stopped as a consequence.

Reports to the Bureau of Mines indicate that the use of radium in therapeutics is more successful every day. One cause of adverse reports, which come oftentimes from reputable physicians, is that too small quantities are used, it is believed. Where 1,000 milligrams should be employed, some experimenters form adverse conclusions if results are not obtained from the use of 5 or 10 milligrams.

Need 1,500 Miners

A need for 1,500 miners has been announced by the Consolidation Coal Co., which is opening seven mines in the Fairmont, Va., field.

ARIZONA PLATINUM CLAIMS ARE TO BE INVESTIGATED

Survey Will Examine Properties at Instance of Department of Agriculture

At the request of the Department of Agriculture, the Geological Survey is investigating a number of claims in the Grand Canyon Region of Arizona. The claims have been taken on what is alleged to be platinum and copper bearing land. The forest service is in doubt as to the existence of platinum and copper on the lands specified. It is also claimed that ulterior motives are responsible for the filing on a number of these properties.

Samples thought to contain platinum have been examined by the survey and found to contain none of the metal.

A field man of the survey will look into the matter at once.

HURTS OIL DEVELOPMENT

War Having Serious Effect on Canadian Field at Calgary

Oil development in the Calgary district of Canada has been hampered seriously by the war. The district, which is one of great promise, has been dependent to a large extent on English capital. This was especially the case owing to the encouragement given by the British Admiralty to the development of this particular field. The oil found in this district is remarkable for its high grade. The gasoline content in some wells is as much as 80 per cent.

J. H. Sinclair, formerly with the United States Geological Survey, but now located at Calgary, told heads of divisions at the survey about the field, on a recent visit.

Mr. Sinclair was with the survey from 1903 to 1908.

Work in Idaho District

Triangulation of the phosphate rock area in southeastern Idaho near the Fort Hall Indian reservation is in progress. The Geological Survey has one party looking after this work.

WAR HALTS DEVELOPMENT WORK IN URANIUM MINES

As a result of the war in Europe the Standard Chemical Co., the most active miner of uranium ore in this country, advises that its developments are practically at a standstill. Joseph M. Flannery, president of the company, in a letter to THE MINING CONGRESS JOURNAL, states that there is no doubting the value of radium in therapeutics. He considers it has been established beyond all question. The domestic demand from this source, however, is small and uncertain, and Mr. Flannery finds it impossible to predict when the business will assume larger proportions. He says that all research work on radium in Europe has been affected adversely by the war.

Michigan Appropriation Increased

An appropriation of \$65,000 has been allowed the Michigan College of mines for current expenses for the next biennium. This is the same amount appropriated for the last biennium. In addition to this, a special purpose appropriation of \$15,320 was allowed. This compares with \$9,300 received two years ago. The special purpose fund will be devoted mainly to improvements to buildings and grounds.

Allen Issues Report

What is regarded as one of the most notable productions in the history of the Michigan Geological and Biological Survey is the recent publication on "The Mineral Resources of Michigan," by R. C. Allen, the director. This work goes into salient matters with reference to metallic and non-metallic minerals. Statistics covering various phases of the copper industry are peculiarly illuminating.

Topographers Sent to Oil Field

Owing to the prospecting which is being done for oil in the Moorcraft district of Wyoming, which is just west of the Black Hills, two parties have been sent by the Geological Survey to that region to do triangulation level and topographic work.

CONTINUES WORK WITH PRECIPITATING AGENTS

Geological Survey Attaches Much Importance to Experiments on Gold and Silver Solutions

From the standpoint of the metal miner, no more important work is being done by the Geological Survey than the experiments being carried actively forward in the matter of metallic minerals which act as precipitants of gold and silver. Important results are being obtained due to this work, but it will not be announced until the experiments have been carried still further.

This work already has been the subject of several articles in *Economic Geology*.

The most recent summary of the work which has been made public is, briefly, as follows:

The mineral, maucherite, tetranickeltriarsenide (Ni_4As_3), containing the largest proportion of nickel of all nickel arsenides known, is a homogeneous substance. It appears to be rather widely distributed, for within one year it has been found on two continents.

Silver sulphate solution is an efficient solvent of pure arsenides preparatory to analysis.

In sulpharsenides, preferably called arsenosulphides, sulphur appears to functionate atomically with arsenic, the arsenosulphide group (AsS) being strongly resistant to the oxidizing action of silver salt solutions. Sulphur, therefore, may be regarded as a protector of arsenic against oxidation by silver salt solutions.

In regions abounding in deposits of native silver associated with arsenical minerals the source of the silver should be attributed to the action of arsenides rather than to arsenosulphides, such as arsenopyrite (FeAsS), and cobalt arsenosulphide (CoAsS), that is, cobaltite, on silver salt solutions.

The silver precipitation capacity of a nickel or cobalt arsenide depends on the proportional amount of arsenic uncombined with sulphur, that is, the arsenic of simple arsenides.

The study of ore enrichment involves problems the solution of which requires a knowledge of the chemical properties

of the homogeneous substances contained in many mineral mixtures, and there is much to be learned concerning the conduct of ore-forming minerals with metallic salt solutions which may come in contact with them. In future if as much attention is paid to the chemical conduct of minerals as has been directed hitherto to their total content, and to the determination of their physical properties, there is reason to believe that chemical mineralogy will become a more systematic and serviceable branch of mineralogical science than it is today.

ERRONEOUS REPORT OF COAL OPERATORS' CONFERENCE PRINTED

An error in an article in *The Chicago Tribune* dealing with the last visit of the committee of the Indiana Bituminous Coal Operators' Association made it necessary for the Department of Justice to issue a denial of certain statements made by the newspaper, with respect to the visit.

In its article, *The Tribune* stated that the Department of Justice had promised the coal operators a certain degree of immunity with respect to the formation of a joint selling agency.

Such a statement, of course, has no foundation in fact. The desires of the committee were noted with great care at the Department of Justice. Judging from the questions asked, an effort was made to understand all the details of the proposition. While evidences of a sympathetic attitude were displayed, the committee was very careful in its utterances after the conference, to explain that no promises had been given or expected.

Hoffman Writes Report

Frederick G. Hoffman, of Newark, N. J., who has given a great deal of attention to mine sanitation, is preparing a technical paper on miners' nystagnus. This paper will be published by the Bureau of Mines and distributed gratis. It probably will be six months before it will appear.

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EDITORIALS

CONTROL OF MONOPOLY VESTED IN THE PUBLIC

All effort of labor to better its condition meets the hearty sympathy and approval of all right thinking people so long as proper means are employed. Whenever lawlessness results, public opinion condemns the lawlessness, but is likely to be divided as to where the responsibility should be placed. The fact that lawlessness does result is a matter of the greatest public importance. It is vital under these conditions to discover which side of such controversy is primarily responsible.

The public desires that the laborer shall receive the highest wage which is possible without putting too great a burden upon the consumer.

To increase the fund set apart for labor to the limit of the purchasing power of the public will make for a solution of the problem of the proper distribution of wealth. Capital must have a fair profit, labor a fair wage and the consuming public a price at which it can afford to buy.

Intelligent selfishness is the basis of all true progress. When it becomes highly

specialized, if not curbed, it becomes a grave danger to other enterprises not so organized.

In spite of the many examples of philanthropic charity on the part of men who have amassed immense fortunes, it is still true that the public interest requires that a curb shall be put upon every enterprise which uses unfair means to accomplish its end. Whether the trust be one of labor or of capital, it should, if it effects a monopoly, be under strict Government control.

The Friends of Labor.

None can be a friend of his country and not be a friend of labor—not necessarily organized labor, but labor. The absolute liberty of the individual must first be protected. If the individual willingly becomes a member of organized labor, the exercise of that privilege should not prejudice his case, nor should his failure to affiliate with the union work to his detriment.

No real advantage can be brought to labor which does not benefit the country as a whole. Too high a wage results in too great production costs, too small sales, less production, and less wages, or else consumption is supplied by outside competitors and all wages are cut off. No solution will be permanent which does not consider every element in the production, transportation and exchange of labor's product. Labor cost is but one element in production.

Majority Must Rule.

It has been said that you cannot indict a whole people; while this is true, it is also true that you can indict, and you should indict, any minority which tries by lawless means to control the majority. It is more important that Government shall be maintained than that the fair demands of a minority shall be granted. In a Republican Government it is basic that the majority must rule. If a cause is right, orderly agitation on the part of the minority which sustains it, will soon make converts enough to control. Unless the majority rules there can be no such thing as Republican Government. Anarchy brings justice to no one. The

breaking down of government means anarchy. He who throws doubt upon the integrity of the courts is an enemy to Republican Government. Where the votes of the people control the Government there is no excuse for attempts to belittle the exercise of Governmental functions.

Efforts to Fix Responsibility.

For many years sporadic efforts have been made to fix responsibility for wrongs which cause labor's unrest, and to ascertain the causes which lead to violence and lawlessness in the settlement of industrial disputes. These efforts have accomplished some good, but each new outbreak has its new aspects which require a broader and more comprehensive investigation, in order that the whole situation may be covered.

Commission on Industrial Relations

Congress, in recognition of this need, enacted a bill creating a Commission on Industrial Relations, providing for an exhaustive investigation covering a three years' period, at the end of which the Commission was to report to Congress the results of its investigations, and such recommendations as seemed best adapted to better industrial conditions.

Under the provisions of the law a Commission was appointed to which the public looked for an impartial, unbiased investigation, and that through its recommendations the waste, bitterness and bloodshed which have been the startling features of many industrial disputes, might be avoided.

Mr. Walsh Should Resign.

A broad judicial investigation was provided for by Congress. The public treasury is paying for such investigation. Very unfortunately the public mind is being forced to the conclusion that this great opportunity for public good is being prostituted to gratify the personal vanity or the selfish ambition of the chairman of this Commission. Many of its hearings have taken on the aspect of a police court prosecution with the court itself acting as the public prosecutor. Witnesses representing the labor side of

these controversies have been treated with that courtesy which should be accorded all witnesses, while those who have not agreed with the chairman's conclusions have been subjected to severe cross-examination, and cunning efforts made to discredit their testimony.

The Commission, under the law, was purposely made up of six partisans—three to represent labor and three to represent the employers of labor. Partisanship from these is essential and expected. Special bias on the part of the chairman will necessarily create distrust in the findings of the Commission and serve to destroy its influence for public good. Mr. Walsh unfortunately does not realize his opportunity, and regarding himself as a partisan member of the commission, has put an end to all hope that the Commission will meet its high responsibilities.

The problems involved require judicial temperament and painstaking investigation. The chairman of the Commission on Industrial Relations finding himself unable to meet these requirements should resign from the Commission for the public good.

Cooperation and the Sherman Law

Much of encouragement has come to coal operators through the friendly reception given to the representatives of the coal industry by the Federal Trade Commission, by the Department of Justice and by the friendly letter of President Wilson. These indicate a material change in public sentiment from the days when anything which savored of combination was *per se* reprehensible. The old view was entirely proper in the days when primitive methods were sufficient to accomplish business success—when really large capital was unknown to the business world.

These were the days of extremely high prices for luxuries and most manufactured products and extremely low prices for the product of the farm and for many of the real necessities of life, and particularly low wages for labor.

These were the days when the more wealthy could not enjoy many of the luxuries which are now considered necessities by the great mass of our people of today.

The evolution of production, the great decrease in cost of articles of which the raw materials and the labor cost has been largely increased, brought about partly by invention and partly by operations so large as to accomplish complete cooperation in a single unit—has wrought a marvelous but almost unconscious change—a change which requires cooperation of the smaller units or their extinction.

There must not be so much of cooperation as to put undue burden on the consumer, nor so great competition as to annihilate the smaller producer. These conditions should be accomplished with the least possible Governmental interference with the freedom of business operation. Notwithstanding the encouragement received at Washington and the more enlightened public thought with reference to cooperation in business life, it must not be forgotten that the Sherman Anti-Trust Law is still on the Statute books, that it is still a very potent factor for the prevention of monopoly and that the public mind, having enabled itself to discriminate between good and bad combinations, is disposed to punish the bad with greater severity than ever before.

CALL FOR EIGHTEENTH CONVENTION IS ISSUED

The official call for the eighteenth annual session of The American Mining Congress to be held in San Francisco, Cal., September 20, 21 and 22, 1915, appears elsewhere in this issue. We ask the special attention of our members to this call, and suggestions as to what subjects can be discussed with greatest advantage at this convention.

Heretofore Mining Congress sessions have lasted for five days, and usually three sessions have been held daily. The officials of the Congress, believing that the desire of members to see the Exposition will make difficult the holding together of a large convention for the discussion of abstract subjects, are proposing to limit the sessions and to arrange for the expeditious conduct of the necessary work of the convention.

All set papers must be in the hands of the secretary in time to have them printed and ready for distribution either before or at the convention. Written discussion of the set papers will be welcomed, as well as discussion from the floor, upon the subjects presented for consideration.

INCREASES THE FIELD FOR TECHNICAL MEN

At the time the formation of the Bureau of Mines was being discussed, some opposition to the proposed Governmental activities came from some consulting engineers. It was their fear that the Bureau of Mines would encroach on the field of private activities.

The Bureau has now been in operation sufficiently long to prove beyond question how groundless were these fears. Instead of limiting the field of the consulting engineer, the Bureau of Mines is continually increasing the opportunities for the use of consulting engineers.

This is especially true in coal mines. Only a few years ago the technical man was not regarded with favor in the coal mining districts. It was considered that the extraction of coal was a prosaic question of brawn and required little else but muscle. Even foremen and superintendents possessed of "book learning" were regarded with suspicion. The remarkable change which has taken place during recent years can be understood only by those who have a comprehensive recollection of conditions as they previously existed. That the Bureau of Mines has played its part in this problem can not be disputed.

Even the Safety Engineer, who only recently was considered as a superfluity and by some a parasite, has been able to prove his value in dollars and cents.

IMPORTANT PROFESSIONAL PAPER DELAYED SERIOUSLY

The recent publication by the U. S. Geological Survey of Professional Paper 87, on the geology and ore deposit of Copper Mountain and Kasaan Peninsula, Alaska, the investigations for which were

made in 1907 by Mr. Chas. W. Wright, calls attention to two subjects of importance.

Dr. Brooks, in the preface of this paper, explains the reasons for the long delay in its publication. First, that Mr. Wright, before completing his report, left the Government service to go into private practice, and that in consequence the report was not finished until 1912. A still further delay has been caused by lack of sufficient funds to pay for the cost of printing.

It would seem that professional ethics would require that having undertaken an important piece of work, an obligation was thereby created to finish it in time to be of service to those for whom the work was done. Mr. Wright may have felt justified in leaving this work partially completed, but the public which pays for it would seem to have ample cause for criticism. While it may be justifiable to use Government employment as a stepping-stone to better positions, it surely cannot be right to abandon a professional undertaking in such a way as to destroy its particular value to the Government.

Mr. Wright made the investigation in 1907 and in September, 1912, submitted his report. Because of a lack of funds this valuable publication has been kept even further from its real use. It may not be amiss to remind Congress that such economy makes for the grossest extravagance.

PRIVATE ENTERPRISE DOES NOT GET ALL ABLE MEN

While there are a number of able men in the Federal service being drawn out of the work by private enterprise, it is not the case that all men who develop unusual ability in the Government service are lost in this manner. The very nature of technical work tends to eliminate the individual. For the most part, it is prosaic and devoid of unusual features which draw attention to the individual workers. There are scores of men with unusual gifts whose names are unknown outside of their bureaus. They work quietly ahead, contributing greatly

to the remarkable work that the Government is doing in behalf of science and industry.

On July 1 the Government will lose a man of the most decided ability in the person of Edward W. Parker, of the Geological Survey. His services to the Government have been of exceptional value. The anthracite coal companies did not select him as the head of their new educational bureau without carefully weighing his ability against that of many other able men.

Despite his very valuable services, there are men in the survey who can slip quietly into Mr. Parker's chair and carry on his work from the point he leaves it, without noticeable change in the output of the division.

It can be said, however, that there would be an alarming number of Federal employes taken into private business if their real merit could become known generally.

WOMEN AND CHILDREN REAL VICTIMS OF OHIO STRIKE

A sigh of relief was heaved throughout a broad expanse of the coal producing country when the wage scale in the Ohio district was signed last week. It is regrettable that the wearing-down process had to be resorted to before this difference could be settled. Forty-five thousand persons, counting women and children, have suffered directly to a more or less extent as a result of this controversy.

The strike promised to last even longer than it did. We are very glad that its termination came more speedily than was expected, but it seems such a useless outpouring of energy to have had to strike at all.

As in all such struggles, the greatest sufferers are the women and children. We hope that Ohio never again will be called upon to stage such a regrettable occurrence.

Feldspar and mica deposits of Florida are treated fully in a report just out by S. W. McCallie, the State geologist of Georgia.

LITTLE CHANCE FOR LABOR SHORTAGE THIS FALL SAYS DEPARTMENT OF LABOR

Fear has been expressed in some quarters that the war in Europe would cause a labor shortage in the mining districts. The fact that mining operations promise to be restricted during the summer probably will result in an unusual demand for miners when the fall rush begins. In this connection, it is pointed out, that a large number of miners have returned to Europe to comply with their military obligations and that immigration has fallen off decidedly.

At the Department of Labor it is stated that there is no ground for apprehensions of these kinds. There are sufficient miners in this country, if properly distributed, to handle the probable output of coal this fall, it is asserted. It is also pointed out that the immigration of miners has not ceased. There has been a decided decrease, but arrivals are more than offsetting departures. Had facilities for the return of Austrians and Hungarians been better there doubtless would have been a much larger exodus of miners. The only military reservists who could return to their countries are those of the allies and the neutral nations. These nations, with the exception of Italy, contribute few workmen to American mines. While the Italians have been free to return, they have not shown any great desire to return to their native land.

The latest complete figures of immigration are those of March. In that month there were 19,263 immigrant aliens admitted. Of this number 11,549 were males. Natives of Southern Italy were the most numerous. They totaled 3,118. A large percentage of them were miners. The trend of immigration is shown by the numbers of arrivals from foreign countries. During March arrivals were as follows: English, 2,243; Scandinavian, 1,885; Greek, 1,488; Irish, 1,097; Mexican, 996; German, 928; French, 820; Spanish, 435; Bulgarian, 316.

Issues New Reports

Two publications have just been issued by the Wisconsin Geological and Natural History Survey. One is a study of the methods of mine valuation and assessment with special reference to the Zinc mines of southwestern Wisconsin. It is by W. L. Uglow. The Polyporaceae of Wisconsin is the subject of a report by J. J. Neuman.

FRANKLIN COUNTY OPERATORS CALL ON TRADE COMMISSION

**Details of Conference Will Not Be Made
Public at this Time—Sympathetic
Hearing Accorded**

While no definite results followed the visit to Washington of the representatives of the Franklin Center (Ill.) Coal Operators' Association, they had a satisfactory conference with the members of the Federal Trade Commission.

The committee was composed of C. M. Moderell, president United Coal Mining Co., Chicago; D. W. Buchanan, president Old Ben Mining Corp., Chicago; Herbert H. Taylor, president The Taylor Coal Co., Chicago; C. A. Bickett, president Bickett Coal & Coke Co., Chicago; Joseph P. Rend, vice-president W. P. Rend Collieries Co., Chicago; Dr. F. C. Hannold, secretary Franklin County Coal Operators' Association, Chicago; Ralph Crows, Esq., attorney, Chicago.

At the offices of the Federal Trade Commission it was stated that for the present the details of the discussion would not be made public.

It is understood, however, that the commission listened with sympathy to a proposal on the part of the operators to establish a bureau of information, which would report on volume of the sales, tonnage and prices. The bureau also will attempt to maintain friendly relations between the operators subscribing to it.

Correspondence Made Public

Correspondence, with regard to the proposal of the Indiana operators to establish a joint selling agency, which passed between the President and J. F. Callbreath, secretary of The American Mining Congress, has been published extensively during recent weeks in the coal publications. This correspondence was made public at the request of The American Mining Congress after permission to do so had been obtained from the White House.

Survey Coal District

Work on a survey of the Cholane coal district of California is being completed.

COAL CAR DEMURRAGE, PENDING OPENING OF LAKE NAVIGATION, AGAIN UP

Pittsburgh and Ohio Mining Company Brings Case Against Baltimore & Ohio Before Interstate Commerce Commission—Increase in Rates From Wyoming and Utah Mines Denied—Other Traffic News.

Demurrage charges on lake coal, which is the basis of annual friction between the coal mining companies and the carriers is made the basis of a complaint filed with the Interstate Commerce Commission by the Pittsburgh & Ohio Mining Co. and the Jamison Coal & Coke Co. The complaint is brought against the B. & O. Railroad Co. The mining companies, in their complaint, state that the B. & O. filed with the Interstate Commerce Commission its local freight tariff naming car demurrage rules and charges applied on lake coal, vessel fuel or coke held for trans-shipment at Cleveland, Loraine, Sandusky, Fair Port and Fair Port Harbor, effective April 15, 1913. This tariff sets forth that the rules and charges named are effective each year from April 15 to December 31, inclusive. The tariff provides that during the period between these dates demurrage charges at the rate of \$1 per car are to be imposed on all cars held at the ports mentioned, subject to an allowance of five days free time per car.

OBJECT TO DATE

The complainants declare that the provisions of the tariff are unjust, unreasonable and discriminatory. In particular, they attack the provision making the tariff effective April 15 of each year.

In this connection it is stated that for many years past it has been the custom of the carriers transporting bituminous coal to the lake ports for trans-shipment to points beyond, to establish each year as the effective date of their demurrage tariffs a date which is not earlier, and usually a few days later, than the date on which navigation on the Great Lakes is declared to be opened for the season. A long standing custom and practice determines that navigation on the Great Lakes is open when the waters are sufficiently free from ice to permit the movement of a vessel from Lake Erie ports to the head of Lake Superior. It is stated further that lake navigation does not open until the last days

of April and that unusual delays and difficulties always are experienced in the movement of boats intended to be used for the loading of coal at that time.

OPENED APRIL 25 LAST YEAR

Public records show that navigation was not opened in the spring of 1914 until April 25. The canal of Sault Saint Marie was not used by any boat prior to April 23.

The mining companies also point out that in the spring of 1914 other causes beyond their control made it impossible to secure boats prior to May 1. One of these causes was the Government inspection which has to be made of vessels on the Great Lakes prior to their sailing. A strike of tug-boat men at Buffalo greatly delayed matters at that port. Storms prevailed immediately after the opening of navigation in the spring of 1915, which hampered the movement of vessels intended for the loading of coal.

It is pointed out that a tariff by the respondents for 1912 provided that the demurrage rules should not become effective prior to May 15 of that year. Subsequent to the close of navigation in 1914 the respondent cancelled its demurrage tariff, and on March 16, 1915 published a new tariff which did not become effective until May 1, 1915, thus establishing, according to the complainants, the effective date for the current year May 1 instead of April 15.

DISCRIMINATION ALLEGED

During April, 1914, the Jamison Coal & Coke Co. shipped from points on the lines of the respondent and via its rails, large quantities of bituminous coal, consigned to its selling agent, the Pittsburgh & Ohio Mining Co. at Loraine, Ohio, for trans-shipment via lake to points beyond. Owing to the fact that lake navigation was not open on April 15, and owing to the other causes mentioned, the complainants were unable, prior to May 1, 1914, to secure vessels in which to transport the greater part of the coal which arrived at Loraine prior to May 1. As a result, cars containing lake coal, vessel fuel and coke were held for trans-shipment at Loraine. Demurrage charges aggregating \$4,231.00 accrued prior to May 1. The complainants have refused to pay this bill for demurrage, and point out that they must compete with coal producers who ship

over railroads whose demurrage tariffs do not become effective until May 1. This constitutes unjust discrimination, the complainants say.

IRON CASE DECIDED

Ruling Rendered in Matter Brought Up by Iron Mining Companies

A decision in the case of the Newport Mining Co., et al., vs. The Chicago & Northwestern Railroad Co., et al., was the subject of a recent decision by the Commission. A number of mining companies operating iron mines in the northern peninsula of Michigan joined in the case. The defendants are carriers whose lines serve the mines. The salient features of the decision are as follows:

The carriers serving mines in the Michigan peninsula simultaneously filed supplementary tariffs separating their charge on ore traffic and applying a 5-cent per gross ton additional charge for dock service, but keeping in effect the old rate which then applied only for the service of assembling and line haul up to dockyard. The Commission holds that the effect of this change is to increase the rate of service formerly performed at a lower rate and the burden is on the carriers to justify the increased total charges.

In judging the reasonableness of a rate in territory served by several carriers the line most favorably situated with respect to earnings, traffic, and operations will not alone be considered; and, conversely, consideration will not be confined to the line of poorest earnings, traffic conditions, etc.

When discrimination is claimed as a ground for disturbing a blanket rate it must be shown that the discrimination resulting is unlawful; i. e., that one shipper or class of shippers is damaged thereby and that another shipper or class of shippers is correspondingly benefited.

The increased charges are found to be justified, and complaints dismissed.

PETITION GRANTED

Pennsylvania Company Allowed to Apply Rates Via New Ratings

Among the important Fourth Section orders issued last month were three affecting the transportation of coal in Pennsylvania. The Pennsylvania Company was authorized to establish rates on bituminous coal from Wehrum, Pa. to Buffalo and Black Rock, N. Y. via Blairsville and Kiskiminetas Junction,

the same as rates concurrently in effect on like traffic from the same point of origin to the same destination via the Buffalo, Rochester & Pittsburgh Railroad and its connections, and to maintain higher rates at intermediate points, provided they shall not exceed the rate from Wehrum to Buffalo by more than 15 cents per ton, and that the present rates for intermediate points are not exceeded.

A similar order covering the transportation of bituminous coal from Ritter, Pa. to Buffalo, Lackawanna & Black Rock, N. Y., via the B. R. & P. The intermediate rates must not exceed the through rate by more than 10 cents per ton.

The third order covers shipments from Wheatfield, Dilltown, Brendlinger, Kiskiminetas, Colliery No. 2 at Scott Glen, Scott Glen, Claghorn, Heshbon, Auld Run Colliery, Bells Mills Coal Co., Josephine Colliery No. 1 and Josephine, Pa., to Buffalo, Lackawanna and Black Rock, N. Y., via Blairsville and Kiskiminetas Junction, the same as rates via the B. R. & P. Present rates to intermediate points are not to be exceeded.

MESABI IRON ORE RATE

HELD TO BE UNREASONABLE

In the matter of rates, practices, rules and regulations governing the transportation of iron ore, the commission has ruled that the existing rate of 60 cents per long ton for the transportation of iron ore from mines on the Mesabi Range in Minnesota to vessels at Two Harbors, Minn.; Duluth, Minn., and Alton Bay, Wis., to be unreasonable. A rate not exceeding 55 cents was prescribed for the issue. No finding was made with respect to rates from mines on the Vermillion and Cuyuna Ranges.

RATES SPECIFIED

Decision Rendered in Campbell's Creek Coal Case

A situation of considerable interest to West Virginia coal mining interests is the decision of the Commission following the rehearing of the case of the Camp-

bell's Creek Coal Company vs. Ann Arbor Railroad Company, et al.

The Commission held that through routes and joint rates should be established for the transportation of coal from points on the line of the Campbell's Creek Railroad to certain interstate destinations and such joint rates should not exceed the main line or district rates now applied from points on the lines of the Coal and Coke and the Kanawah & West Virginia railroads to the same destinations.

FOUND UNREASONABLE

Rate on Coke From Geneva, N. Y., to Brooklyn Subject of Ruling

In the case of the Parkinson Coke & Coal Co. v. the New York Central & Hudson River Railroad, the commission ruled that the carload rate on coke from Geneva, N. Y., to Brooklyn is unreasonable. Reparation was awarded.

In the matter of coal rates from New Mexico mines, the commission ordered that the Atchison, Topeka & Santa Fe Railroad Co. and its connections be authorized to continue rates on coal from Gallup, N. Mex., to certain points in California, at the same rates concurrently in effect on like traffic to the same points from Castle Gate, Utah. It was provided that the new rates must not exceed rates to intermediate points.

Hearing Dates Set

Hearings of interest to miners have been arranged as follows by the commission: June 5—Joplin; Examiner LaRoe, Picher Lead Co. v. St. Louis & San Francisco Railroad. June 11—Denver; Examiner LaRoe, Huerfano Coal Co. v. California & Southern Railroad. June 14—Phoenix, Ariz.; Examiner Mackley, Petroleum to Arizona points. June 15—Denver, Examiner LaRoe, Southern Carron Coal Co. v. C. W. & E. Co.

Gold Stamp Wins Case

A rate of \$1.23 collected on mining machinery from Nighthawk, Wash., via an international route to Seattle, has

been found to be unreasonable by the Commission. Reparation was ordered paid. The case was brought by the Gold Stamp Mining Co., of Seattle, against the Great Northern Railroad.

Salt Lake Hearing Set

A hearing in the case of the Consolidated Fuel Co. v. The Atchison, Topeka & Santa Fe R. R., will be held in Salt Lake City June 30, before Examiner Mackley.

Suspended Until September 7

Proposed increases of rates on coal from St. Charles, Va., to various points north of the Ohio River have been suspended until September 7.

Increases Denied

Application for certain increases of rates on coal from mines in Wyoming and Utah to California points have been denied by the Commission.

Applications Denied

* Application on the part of carriers to increase coal rates from Wyoming and Utah mines has been denied by the commission. The same ruling was made with respect to an application affecting coal from Colorado and Utah points.

Tidewater Rates Suspended

Proposed coal rates from Taylor, Pa., and other points to Tidewater, at New York, have been suspended until November 1.

Case Ordered Reopened

The Commission has ordered the reopening of the case of the Wisconsin Coal Co. vs. the Pere Marquette.

Dilltown Company Complains

A complaint has been filed by the Dilltown Smokeless Coal Co. against the Buffalo, Rochester & Pittsburgh Railroad, in which it is alleged that the carrier refuses to furnish cars on the company's private side track.

Hearings Assigned

Hearings have been assigned by the Commission in the following cases: Knoxville, Tenn., July 6, before Examiner Kelly, rates on coal to Redwing, Minn.

Frankfort, Ky., July 15, before Examiner Kelly, coal to Kentucky points.

Chicago, July 21, before Examiner Kelly, coal from Toluca, Ill.

Philadelphia, July 22, before Examiner Burnside, Consolidated Coal Co. vs. the B. & O. Railroad.

**COMMENTS ON RESPONSIBILITY
OF LABOR ORGANIZATIONS**

**Counsel of National Erectors' Association
Points Out Unfairness of Laws
As They Stand**

Labor unions and their responsibility under the law is the subject of the following comment by Walter Drew, counsel for the National Erectors' Association. In part, Mr. Drew says:

"It will interest you to know that as a matter of law a union cannot be sued and damages recovered from its treasury for unlawful injuries which it may inflict upon others through the boycott or other form of tort. This lack of responsibility on the part of the union for its acts was the reason why action in the first instance was begun against the individual members of the Hatters' Union rather than against the union itself. The structural iron workers destroyed property to the value of a million or more by means of explosions. The evidence is overwhelming and accessible that these explosions were planned by the officials of the union and paid for out of the union treasury through the vote of the executive board, yet those whose property was thus unlawfully destroyed have no action for damages against the union and no way to reach the treasury of that union. In other words, the union with its extensive organization and the funds in its treasury has untold power for inflicting unlawful injury upon others, but with no

corresponding legal responsibility for the injury thus inflicted.

"The individual members of the union who are shown to have participated in the unlawful acts can be joined as defendants in an action for damages, but what is an action against the hundreds of individual members of a union worth for practical purposes? This power and this lack of corresponding legal responsibility for its exercise directly encourage the reckless and unlawful invasion of the rights of others by union leaders and is in large measure responsible for many of the excesses of present-day unionism.

"In addition to this large measure of immunity from legal liability, Mr. Gompers and his followers are insisting upon a further extension of the privileges and immunities of organized labor. They demand that in addition to the immunity of the union itself from legal liability for unlawful injury to others, the individual members of the union shall, by act of law, be made exempt from the preventive action of the writ of injunction. In other words, they ask to be put in a position where they cannot be prevented from inflicting injury upon others, for which injury, once inflicted, they know their organizations cannot be held responsible under the law as it now stands."

Published in New York

The Engineering Index for 1914, which was referred to in the last issue of THE MINING CONGRESS JOURNAL, is published by the Engineering Magazine Co., of 140 Nassau Street, New York, and not by the Engineering Magazine Co., of London, as stated.

Eades Leaves for Alaska

Chairman Eades, of the Alaskan Railway Commission, left last month for Alaska. He will maintain an office in the future at Seward, Alaska. Lieut. Frederick Meers, of the commission, will have his headquarters at Ship Creek, while Thomas Riggs, Jr., will have his headquarters at Fairbanks.

SWEEPING AMENDMENTS TO ILLINOIS MINING LAWS ARE PROPOSED

Senator Hull Would Make Important Changes in State Mine Inspection—Workmen's Compensation Act Amendments Also Are Proposed—Effort Made to Eliminate Incompetent Workmen from Mines

Illinois

Senate Bill No. 373, introduced by Mr. Hull. This bill provided for the amendment of existing laws relating to coal mining. It provides that the State mining board shall appoint twelve State mine inspectors. Each of the twelve districts is to have an inspector. Each inspector is to furnish bond in the sum of \$5,000. The State mining board is to furnish each inspector an anemometer, a safety lamp and other instruments needed in his work. Inspectors are to devote their entire time to their offices. Inspectors are to make personal examinations of each mine in the State every six months. The bill provides for the scope of the examination. Authority is given the inspectors to enter any mine by day or night, but they are forbidden to obstruct or hinder the working of the mine unreasonably.

PRECAUTIONS PROVIDED

The inspector is instructed to place at the top of each mine inspected by him a plain statement of what, in his judgment, is necessary for the better protection of the lives and health of persons employed in the mine. He is also instructed to put a notice at the landing used by the men, stating what number of men will be permitted to ride on the cage, and one stating the rate of speed at which men may be hoisted and lowered on the cages. The inspectors are made ex-officio sealers of weights and measures in their respective districts, and are empowered to test all scales used to weigh coal at coal mines. The bill also provides for test weights, inspectors annual reports and their publication.

Each coal operator is required to make an annual report. The report must be finished within thirty days after June 30 of each year. It is to be made to the State mine operator of the district, on blanks which will be furnished. The report is to include statistics of wages and conditions of employees. Any coal operator failing to furnish the statistics required is to be subject to a fine of \$100.

AMENDS COMPENSATION ACT

Senate Bill No. 376, by Mr. Swanson. This bill provides for the amendment of the workmen's compensation law. Section 29 of the act is amended to read as follows:

Where an injury or death for which com-

pensation is payable by the employer under and by virtue of the provisions of this Act was caused under circumstances creating a legal liability for damages in some person other than the employer to pay damages, the existence of a right in the employee to receive or recover such compensation from the employer shall not operate as a bar to an action by the employee against such other person for damages, nor be regarded as establishing or fixing the measure thereof. However, in the event that the employee shall receive or recover from such other person a sum equivalent to or greater than the total amount of compensation for which the employer is liable in the premises, the employer shall be released thereby from the obligation to pay such compensation. If, however, the sum so received from such other person is less than the total amount of compensation for which the employer is liable as aforesaid, the employer shall be liable only for the difference between the amount so received from such other person and the amount for which the employer is so liable. If the employer shall, within sixty days after the date of such injury or death, or as soon as practicable thereafter, or at any time prior to the payment of any sum of money to the employee by such other person so liable, serve a written notice upon such other person informing such other person that compensation has been paid or is payable to the employee by the employer on account of said injury or death, the employer shall thereafter be entitled to receive or recover from such other person a sum equivalent to the amount of compensation payments which the employer has theretofore paid or which the employer is liable to pay to the employee in the premises. Any sum of money so received or recovered by the employer from such other person on account of such compensation shall be deducted by such other person from any amount recovered by the employee against such other person in an action for damages on account of such injury or death. The word "employee" wherever used in this section shall be held to include the personal representatives and beneficiaries of the deceased employee, the words "person other than the employer" and "other person" wherever used in this section shall be held to include a firm or corporation, and the word "compensation" wherever used in this section shall be held to include the medical, surgical and burial expenses provided for in this Act.

A further amendment provides for the acquitting of the employer if settlement has been made with the widow and her written receipt therefor is received. Another amendment to the same Act specifies in greater detail action that may be taken by an employee if the employer neglects, fails or refuses to pay compensations.

WOULD ELIMINATE INCOMPETENTS

Senate Bill No. 478, introduced by the committee on Labor, Mines and Mining. This bill provides for the amending of the law as to the safety of persons employed in and about coal mines, and for the examination of persons seeking employment therein, in order that only competent persons may be employed as miners. The amendment provides for conditions under which certificates of competency may be issued. It also provides for a complete record of the proceedings and acts of the miners' examining board. Provides for office room and other equipment necessary. The commissioners are authorized to receive remuneration for traveling and expenses contracted in the discharge of their duties. It also is provided that public notice shall be given of examinations to be conducted by the board.

SEEKS TO LESSEN FIRE RISK

Senate Bill No. 480, introduced by the committee on Labor, Mines and Mining. This bill provides for the amendment of the act requiring fire fighting equipment and other means for prevention and controlling of fires, and the prevention of loss of life from fires in coal mines. The amendments provide for more sufficient fire fighting apparatus under ground. It makes underground connections with stand-pipes or surface bodies of water, and the presence of chemical fire extinguishers in the mines. Certain amounts of fire-proof construction in shafts, drifts, and slopes are provided. The location of staples under ground are designated.

FINAL SURVEY REQUIRED

Senate Bill No. 482, introduced by the committee on Labor, Mines and Mining. This bill provides for the issue of certificates in connection with mining and goes into detail as to the requirements for inspectors, mine engineers, hoisting engineers, and mine examiners. It provides for the preservation of all examination papers and all records of the State mining board. It is made unlawful to employ other than certified persons, with the exception of a twenty-three day limit which is provided under certain conditions. It is also provided that when any coal mine has worked out or is about to be worked out, abandoned or closed indefinitely, the operator shall make a final survey of the mine. This survey must show the entire worked out area.

The shaft, slope, or drift, opening into any abandoned mine is required to be kept securely enclosed. The amendment also has to do with the places of egress, stairways and cages, passageways to escapement, connections with adjacent mines, gates and landings, lights on landings, hoisting equipment, brakes on trucks, rope fastenings, signals, safety-valves, inspection of boilers, and coroner's inquest.

MINE INSPECTION COMMISSION

House Bill No. 860, introduced by Mr. Turnbaugh. This bill provides for the establishment of a mine inspection commission. The commission is to consist of three coal mine owners and of three coal miners appointed by the Governor, together with three qualified men, no one of whom shall be identified or affiliated with the interests of either the mine owners or coal miners, or dependent upon the patronage or good will of either. None of the three qualified men to be actively interested in politics. Each member of the commission is to have equal authority, power and voting strength, in considering and acting upon matters which may be brought to the attention of the commission. The commission is granted full powers to make testimony on matters within its jurisdiction.

KANSAS

A bill, prepared by the committee on mines and mining, has been introduced in the two branches of the legislature, providing for a State bureau of mines to be composed of three members, one to be chosen by the miners and one by the operators, the Secretary of State to be the third member, and to have charge of calling meetings. One mine inspector and five deputies are to be appointed by the members of the bureau.

The bureau is also made an arbitration board and is given authority to issue certificates to inside overseers and pit bosses. The bill was drawn up after consideration by the committee on mines and mining of two mine inspection measures introduced under the direction of the labor organizations.

TEAPOT DOME RESERVATION APPROVED BY PRESIDENT

The President has approved the Navy fuel oil reserve of Teapot Dome, Wyo. This reservation is composed of 10,000 acres. No drilling has been done in this region, but expert oil men believe it is valuable oil land. Two other reserves have been taken by the Navy in the heart of the San Joaquin Valley in California.

RECENT LEGAL DECISIONS; OHIO'S "RUN OF MINE" LAW EXPLAINED

Anti-Screen Law Not Unconstitutional, it is Decided in Case of Rail and River Coal Company versus Ohio Industrial Commission—Transfer of Title Defined in Arizona Case.

The objects of the Ohio "run of mine" or anti-screen coal mine law of 1914 were to eliminate the objections to the "run of mine" basis of payment to miners and to enact a system fair alike to employer and miner. The first section provides for the payment of the miners according to the total weight of coal in a mine car as removed from the mine, with the percentage of impurities to be determined by the industrial commission of the State; and operators, under the provisions of the second section, are not obliged to compensate miners for everything sent out in mine cars, but the percentage of impurities as determined by the industrial commission is to be excluded from the calculation; and while the industrial commission is authorized to determine the percentage of impurities and enforce its orders relating thereto, yet the ascertainment of the commission is not a limitation upon the right of the operators and miners to agree upon deductions of their own arrangements as to the amount of slate, sulphur, rock or dirt, and they may substitute their own agreement in that respect instead of that of the commission. The law does not prevent the operators from screening their coal as they see fit for other purposes and fit it for market in such wise as they may deem advisable; but the provision for screening is for the purpose only of calculating the amount to be paid miners for mining coal. The statute does not make the orders of the industrial commission final or conclusive, but makes them only *prima facie* reasonable, and operators are entitled upon petition to a hearing upon the reasonableness of any order and are given the right to bring an action in the supreme court to test the reasonableness or validity of any such order. The statute is not unconstitutional as unduly abridging the freedom of contract in prescribing the particular method of compensation to be paid by operators to miners for the production of coal, under the constitution of Ohio which provides that laws may be passed "for the regulation of methods of mining, weighing, measuring and marketing coal, oil, gas and other minerals."

Rail & River Coal Co. v. Yapple (Ohio Industrial Commission), 236 U. S. 338, p. 345.

TRANSFER DEFINED

The owner of certain mining locations, and holding options to purchase other mines, entered into a contract with a corporation by which in consideration of the assignment of the capital stock of the corporation he promised and agreed to transfer such mining locations and options to the corporation and when pursuant to such

contract the corporation did assign to him its shares of the capital stock, the property in the mining locations and in the options will be deemed to have passed to the corporation, under the rule that equity will regard that as actually done which ought to have been done, and the person so receiving the shares of stock can not thereafter transfer a valid title to the mining locations and to the options to another corporation with notice and knowledge of the agreement, and of the fact that the stock had been transferred; and the contracting corporation may compel a conveyance of the mining locations and the transfer of the options by the corporation or person so receiving the same.

Cerro Cobre Development Co. v. Duvall (Arizona), 147 Pacific, 695, p. 699, March, 1915.

NO DEFENSE

Where shares of stock of a mining corporation were issued and delivered to a person in consideration that he finance the corporation and advance money for the working of its mines, it is no defense in an action against him for a breach of the agreement to show that he had contracted with and paid a third person to furnish the money and that such third person had failed to do so.

Cerro Cobre Development Co. v. Duvall (Arizona), 147 Pacific, 695, p. 699, March, 1915.

REASSESSMENT

The legislature of Oklahoma may provide for a reassessment of property of public service corporations which has been assessed at less than its fair value, but in the absence of any such provision the State Board of Equalization has no power to do so; and where the state board has assessed property of all public service corporations and has equalized the various county assessments and computed the amount of the State levy and caused the same to be certified to the several county clerks, it is then without jurisdiction of authority to reconvene and reassess such property, and prohibition will lie and is the proper remedy to restrain the state board from so doing.

Prairie Oil & Gas Co. v. Cruce (Oklahoma), 147 Pacific, 152, March, 1915.

ASSUMPTION OF RISK

Assumption of risk is a matter of implied contract and an employee may be held to have assumed a risk, though his own act in proceeding in the face of danger would not constitute negligence on his part; but the employer's promise to repair a defect operates as a suspen-

sion of the employee's implied contract to bear the risk, and puts the obligation on the operator to bear the risk during the period covered by his promise. Accordingly where a pit boss promised a miner on Saturday to have a defective track repaired before Monday, the miner on returning to his work on Monday morning was justified in relying upon the promise of the pit boss and in believing that the defect had been repaired as promised.

El Paso County Land & Fuel Co. v. Perdaris, (Colorado), 147 Pacific, 675, p. 677, April, 1915.

NO LIABILITY IMPOSED

An oil and gas lease providing that the lessee shall deliver to the credit of the lessor free of cost in a pipe line, one-eighth part of all the oil produced and saved from the leased premises and pay \$300 per year for the gas from each and every gas well drilled on the premises, must be interpreted in the light of all the facts and circumstances surrounding the parties, their relation to each other, the objects and purposes of entering into the contract; and the term "gas well" as used in the contract must be taken to mean a gas well, which considering its location with reference to any market for gas, its capacity as a gas producer, that it can be profitably operated as such, and not a well producing oil in large quantities and some gas and operated by the lessee for many years as an oil well, and without demand for gas rental by the lessor. And the fact that some gas is found in a well and is run from the casing head into a gas line from wells on an adjoining lease by the lessee, and the gas from all utilized in operating the wells on both properties, according to a custom prevailing among oil operators, does not impose a liability on the lessee.

Prichard v. Freeland Oil Co., (West Virginia), 84 Southeastern, 945, p. 946, April, 1915.

Locke v. Russell, (West Virginia), 84 Southeastern, 948, p. 950, April, 1915.

MUST PROVE DEPENDENCY

The statute of California, section 1970, Civil Code, gives the right of action to a personal representative of a person killed by the wrongful act of another and provides for the recovery of damages for the benefit of the widow, children, dependent parents, and dependent brothers and sisters; and in an action for the wrongful death of a miner against a mine operator for the benefit of the father of the deceased, evidence of the financial condition of the father is admissible, and the word "dependent" as used in the statute was intended to describe a condition of actual dependency, and not a dependency that rested on a presumption on account of relationship, and it was necessary for the plaintiff to prove, not a mere relation of dependency, but actual dependency.

Balakalala Consolidated Copper Co. v. Reardon, 220 Federal, 584, p. 588, February, 1915.

Paskvan v. Allouez Mining Co. (Michigan), 152 Northwestern, 82, p. 84, April, 1915.

OPERATOR'S RESPONSIBILITY

The rule that a mine operator is not required to furnish a safe place for miners where the perils to the working place are caused by the progress of the work in which the miners are engaged, does not apply to persons engaged in drilling holes for firing shots, as such work is not work of construction or repair and in which the risks are caused by the progress of the work and are assumed by the miner; but the operator directs the drillers to work in places prepared for them as they are moved about the mine from drift to drift, and the operator has undertaken to inspect each working place before assigning the drillers to the work there; and under such circumstances an operator is liable for failure to give proper inspection to discover "missed shots," where such missed shots could have been discovered by inspection, and the operator is not relieved from the duty of inspection and from liability for failure to inspect for shots simply because drillers themselves do generally look out for missed shots.

Balakalala Consolidated Copper Co. v. Reardon, 220 Federal, 584, p. 589, February, 1915.

IS NEGLIGENCE

The statute of Indiana, section 8581, Burns Annotated Statutes, 1914, requires mine operators to provide places or refuge holes in the side walls of the mine of every haulageway used as a passageway by employees in traveling to and from their work, where there is not a clear space of at least three feet in width between the side of the car and the wall or rib; and a complaint in an action by a miner for an injury is sufficient where it avers that the operator failed to provide such places of refuge and the space was less than three feet in width and the miner was injured while passing along the haulageway; and the complaint need not allege that it was practicable to construct places of refuge without interfering with the working of the mine; nor is it necessary to allege that the operator had actual or constructive notice that the space between the side wall and the car was less than three feet, as the violation of a statutory duty is negligence per se.

Vandalia Coal Co. v. Coakley (Indiana Appeals), 180 Northeastern, 382, p. 384, March, 1915.

TRACK DEFECTS

In an action by a miner for injuries caused by his head being caught between a car he was pushing and the wall or rib of the entry, due to an alleged defect in the track, where the question of liability depends on whether the mine operator was to lay the track or whether it was the miner's duty to lay the track, the question of negligence or contributory negligence becomes a question of fact for the jury to determine and in determining the question the jury has the right to consider the fact that the miner was furnished light rails for the track in his room while the mine operator laid its part of the track with a heavier rail and to consider the further fact whether the accident happened while the car was running on the lighter rails or on the heavier

rails; and the jury has a right to rely upon the further fact as tending to make the mine owner liable, that the pit boss had examined the defect in the track and promised to have it repaired, as this was a recognition by the operator of the duty upon his part to repair the defect.

El Paso County Land & Fuel Co. v. Perdaris (Colorado), 147 Pacific, 675, April, 1915.

NO DISTINCTION

Where an employee or miner makes a complaint to his employer of a dangerous defect in his place of work, or in the appliances furnished him with which to work, and the employer makes an unconditional promise to repair the defect, the risk of the defect is cast upon the employer until such time as would preclude all reasonable expectation that the promise might be kept, unless the danger from the defect is so imminent that a person of ordinary prudence would not risk injury therefrom; and there can be no distinction in principle, in so far as the liability of an employer is concerned, between an unconditional promise to repair and a promise to repair on a certain date, or after the happening of a particular event.

El Paso County Land & Fuel Co. v. Perdaris (Colorado), 147 Pacific, 675, p. 677, April, 1915.

OPERATOR LIABLE

The law imposes upon a mine operator the duty to warn and instruct an infant employee of latent dangers; and if such infant employee, in obeying the orders of a general superintendent, engages in services other than those regularly assigned to and performed by him, dangers from which such employee does not comprehend or appreciate because unknown to him, but of which the employer knows or by the exercise of reasonable diligence ought to know, and fails so to warn and instruct the youthful employee, the mine operator is liable for resulting injuries to such infant employee, where he is free from negligence directly contributing thereto.

Dillon v. United States Coal & Coke Co. (West Virginia), 84 Southeastern, 956, p. 958, April, 1915.

CANNOT ESCAPE LIABILITY

The liability of an employer for injuries sustained by an infant employee in the course of his employment depends upon the infant's capacity to comprehend and avoid the incidental dangers and whether he is fully advised concerning them; but in the absence of such capacity and intelligence the employer cannot escape liability on the ground that the injury to the infant or minor was due to accident or negligence of a fellow servant; and the duty imposed as to dangers incident to the work and not patent to the infant, or the existence of which he is not advised, or by reason of lack of incapacity and experience he can not appreciate or avoid, requires the employer to respond in damages for injuries resulting from such dangers.

Dillon v. United States Coal & Coke Co. (West Virginia), 84 Southeastern, 956, p. 959, April, 1915.

NO PROOF OF GAS

The fact that the lessee of an oil and gas lease who had drilled and was operating oil wells, installed and connected vacuum pumps in connection with such wells for the purpose of increasing the production thereof; and the further fact that the lessee successfully utilized what was called or termed "vapor" which was emitted from the wells at the casing head, and by process of distillation and compression converted the escaping substance into gasoline for the mutual advantage and benefit of the lessee and lessor, did not thereby render the lessee liable for the annual rental of gas wells, under the terms of the lease, as the mere collecting of the vapor or volatile substance and the manufacture of gasoline therefrom was no indication of proof of gas in the wells, and did not bring them within the terms of the lease as producing gas wells.

Locke v. Russell (West Virginia), 84 Southeastern, 948, p. 949, April, 1915.

NOT A PARTNER

Joint owners of an oil and gas lease who worked the lease together though not under any special agreement, are partners, and as such they are subject to the jurisdiction of equity; but a sale or an assignment by one member of his interests in the lease does not terminate a mining partnership; and a deed of trust by one such partner on his share operates as a sale to the trustee, but it does not constitute the trustee a member of the partnership.

Wetzel v. Jones (West Virginia), 84 Southeastern, 951, p. 952, April, 1915.

RULE HELD RESPONSIBLE

Section 493, Code 1913 of Alabama, requires every mine operator to adopt special rules for the government and operation of his mine, covering all the work pertaining thereto in and outside of the same, and contemplates the making of a rule regulating the operation of motors and limiting the maximum number of loaded cars that may be hauled on any single trip, as this pertains to the operation of the mine and for the reason that there is more danger in operating a long train than a short one, and a rule on the subject would be a reasonable requirement.

Jaggie v. Davis Colliery Co. (West Virginia), 84 Southeastern, 941, p. 943, April, 1915.

DUTY OF OPERATOR

Motor tracks in a main haulageway of a coal mine partake of the nature of both a place and an appliance and as they are permanently laid in the mine they therefore become a part of the place and are essential to the operation of the motor and therefore an appliance for the removal of coal and it is the duty of the mine operator to maintain his motor and motor tracks in a reasonably safe and suitable condition for the safety of an employee operating a motor in hauling coal out of a mine.

Jaggie v. Davis Colliery Co., (West Virginia), 84 Southeastern, 941, p. 942, April, 1915.

Crockett v. Keystone Coal & Coke Co. (West Virginia), 84 Southeastern, 948, April, 1915.

MUST KEEP TRACKS SAFE

The statute of Alabama requires a mine operator to employ a mine foreman and prescribes the duties of the mine foreman to be, among other things, to keep and carefully watch over the ventilating apparatus and the air ways, traveling ways, pumps and drainage, and to see that proper break-throughs are made, brattices used, no loose coal, slate or rock is hanging overhead or along the haulageways and sufficient props, caps and timbers are furnished to miners, the water drained out of the working places and recesses made along the haulageways of not less than 100 feet apart between the wagon and the ribs for refuge, and provide a proper system of signals and lights, where hauling is done by machinery of any kind; but nowhere is the foreman expressly given supervision of the motor tracks and he is not required to see that they are maintained in a safe and suitable condition, nor does the statute mean to impose that particular duty upon the mine foreman, as supervision of the tracks is not a duty to be implied and it is not essential to the complete performance of any of the acts expressly required of the mine foreman; and under the statute thus considered it therefore remains the imperative duty of the mine operator to see that the tracks, trolley wire and motors are maintained in a reasonably safe condition.

Jaggie v. Davis Colliery Co. (West Virginia), 84 Southeastern, 941, p. 942, April, 1915.

Crockett v. Keystone Coal & Coke Co. (West Virginia), 84 Southeastern, 948, April, 1915.

See Crockett v. Black Wolf Coal & Coke Co. (Alabama), 83 Southeastern, 987.

NOT AN AGENT

The right of a miner to a lien upon a mine or mining claim for labor done or material furnished under the statute of Arizona must be tested by the statute existing at the time the labor was performed or the material furnished, and if the labor is performed or the materials furnished before the amended act of December, 1912, then the right to the lien must be found as the statute existed before that date, as the amendatory act can not have a retroactive operation, as such an application of the amendatory act would be a substantial interference with the obligation of the contract itself; and prior to the amendatory act the mere fact of the existence of the contract to purchase or an option to buy a mining claim, by the terms of which the purchaser was permitted to enter upon, work and develop the mine, with no additional powers over the property, would not constitute the proposed purchaser the agent of the owner, and would not make the mine or mining property subject to the lien of miners who were employed by the person holding the contract or option to purchase.

Oceanic Gold Mining Co. v. Steinfeld (Arizona), 147 Pacific, 717, p. 718, April, 1915.

A convention of the manufacturers of permissible explosives will be held in Washington, June 7.

BUREAU OF MINES PUBLICATIONS

The following publications have recently been issued by the Bureau of Mines:

Bulletin 76. United States coals available for export trade, by Van. H. Manning. 1914. 13 pp.

Bulletin 77. The electric furnace in metallurgical work, by D. A. Lyon, R. M. Keeney, and J. F. Cullen. 1914. 216 pp., 56 figs.

Technical Paper 76. Notes on the sampling and analysis of coal, by A. C. Fieldner. 1914. 59 pp., 6 figs.

Technical Paper 94. Metal-mine accidents in the United States during the calendar year 1913, compiled by A. H. Fay. 1914.

TECHNICAL PAPER

Technical Paper 76. Notes on the sampling and analysis of coal, by A. C. Fieldner. 1914. 59 pp., 6 figs.

Technical Paper 80. Hand-firing soft coal under power-plant boilers, by Henry Kreisinger. 1914. 83 pp., 32 figs.

Technical Paper 94. Metal-mine accidents in the United States during the calendar year 1913, compiled by A. H. Fay. 1914.

BULLETINS

Bulletin 76. United States coals available for export trade, by Van H. Manning. 1914. 13 pp.

Bulletin 77. The electric furnace in metallurgical work, by D. A. Lyon, R. M. Keeney, and J. F. Cullen. 1914. 216 pp., 56 figs.

Bulletin 84. Metallurgical smoke, by Charles H. Fulton. 1914. 92 pp., 6 pls., 14 figs.

Bulletin 85. Analyses of mine and car samples of coal collected in the fiscal years 1911 to 1913, by A. C. Fieldner, H. I. Smith, A. H. Fay, and Samuel Sanford. 1914. 444 pp., 2 figs.

Commends Helena Bureau

Walter Harvey Weed, in commenting on the Helena Mining Bureau, says:

"Your subscribers have reason to feel well satisfied with the work accomplished; the bureau has not only done a great public service in attracting the attention of investors to the Helena district, but the money thus far expended has opened up two properties."

Twenty students of the Michigan School of Mines have been visiting in the iron country studying operations.

CONSTITUTION VIOLATED BY LEASING SYSTEM SAYS COLORADO AUTHORITY

**William G. Haldane, Acting President of the School of Mines at Golden,
Writes Strong Paper Attacking Federal Policy—Says Each State
Should be Admitted on Equal Footing**

A violation of the Constitution of the United States is seen by William G. Haldane in the leasing system being forced upon the West. Mr. Haldane is the acting president of the Colorado School of Mines. He says the system violates the provision of the Constitution which declares that each State shall be admitted to the Union on equal footing. He states that it was not the intention of the writers of the Constitution to allow permanent Federal ownership of the public domain. He cites a ruling of the Supreme Court to sustain the view he has taken. He brings out clearly the unfair burden of taxation that is heaped upon private owners by the policy.

BRANDED AS ILLOGICAL

Mr. Haldane in a recent paper on the subject says, in part:

"A question of paramount importance to the West at the present time is that relating to the disposition of the public domain. Through various processes of illogical reasoning the conservation wave has developed and expanded to a point where in certain bureaus of the Federal Government efforts are being made to withhold from public entry, in some of the public-land States, certain areas containing valuable mineral and to provide in lieu thereof a leasing system whereby the principle of perpetual ownership on the part of the Federal Government is established. Numerous bills have been introduced in Congress, recently, providing for a leasing system for various coal, gas, oil, asphaltum, phosphate, sodium, potassium and grazing lands of the public domain, and some of these bills have passed the House of Representatives.

It is hardly conceivable that the writers of the Constitution of the United

States ever intended that such a policy should obtain or that the States in ratifying the Constitution intended or expected such an interpretation.

"The people of the original States obtained title to their lands by settlement upon them and by payment of a price of some sort, and this policy of disposal has been adhered to from the beginning up to the time the Rocky Mountain region was reached, with one exception. In 1807 Congress passed an act, afterward repealed, providing for the leasing of lead mines, justification for this legislation being claimed in the fact that lead, being a munition of war, a more definite supply might be obtained under the leasing system. Since, in the act admitting States to the Union, the Constitution specifically provides that, 'Each State when formed shall be admitted upon an equal footing with the original States in all respects whatsoever,' have not the Rocky Mountain States the right to expect the same treatment as that accorded Ohio, Indiana, Illinois, Kansas, Missouri and other public lands? These States had the advantage and benefit of their natural resources, without the payment of rents or royalties, and it would appear an unjust, as well as an unfair, discrimination to rule otherwise with regard to Colorado, Utah and others, later admitted to the Union, on a policy which ever contemplated the holding in perpetuity of the public domain, by the Federal Government.

WEST DESERVES AID

"It seems that for purposes of development and growth, if any district should be favored by a liberal land policy, surely this Western country should be the one.

"The area of the remaining public lands with the States totals 343,000,000 acres, an area equal to two-thirds of the territory east of the Mississippi River, hence the effect of the land policy on those States in which this acreage is located is of serious consideration.

"In Colorado, less than one-third of the land is in private ownership; in Arizona, about one-half; in Wyoming, less than one-eighth, and in other public-land States similar conditions exist, so that it can be seen how seriously this question of leasing affects us.

"In our own State it means that the taxation burden of the whole area is borne by the one-third, since the act admitting States provides that public lands shall not be taxed.

"The United States Geological Survey estimates 370,000,000,000 tons of coal in Colorado, sufficient to supply the world for several hundred years; nine-tenths of this is situated on the public domain. Estimating the value of this land at \$500,000,000, it can be seen that exempting this from taxation deprives the State of a fruitful source or means of maintaining efficient government, school, county and State.

NO ROYALTY IN EAST

"Under the royalties imposed by this leasing system on coal alone, assuming 10 cents per ton, the people of this State would have to pay, ultimately, over thirty-three billions of dollars, when the people of the Eastern States have not paid a cent by way of royalty on their coal.

"The imposition of such a levy is a very serious handicap to a Commonwealth in the struggle for industrial supremacy.

UNNECESSARY WITHDRAWALS

"In Colorado alone the Forestry Bureau has established reserve to the extent of 14,560,480 acres, an area equal to that of Connecticut, Massachusetts and New Hampshire combined. Twenty per cent. of this acreage lies above timber line, where no trees can grow, and 65 per cent. of the known mineral areas of the State is included within these reserves.

"Withdrawal from entry of water-power sites for the past eight years has

practically paralyzed development of that important resource. In Colorado it is estimated that we have developed but $4\frac{1}{2}$ per cent. of our water power. To produce the best conditions, the freest opportunity must be given for development. Anything that imposes restrictions impedes the same.

QUOTES SUPREME COURT

"The United States Supreme Court in 1845 declared in re certain public lands in Alabama:

"The United States never had any municipal sovereignty, jurisdiction or right of soil in and to the territory of which Alabama, or any of the new States were formed, except for temporary purposes, and to execute the trusts created by the acts of Virginia and Georgia Legislatures and the deeds of cession, executed by them to the United States, and the trust created by the treaty with the French Republic, of the thirtieth of April, 1803, ceding Louisiana. * * * When the United States accepted the cession of territory, they took upon themselves to hold the municipal eminent domain for the new States and to invest them with it, to the same extent, in all respects, that it was held by States ceding the territory."

"In conclusion, let me contend that the policy of the National Government, with regard to the Federal leasing system, represents extreme conservation; it retards our developments and imposes upon the West a bureaucratic rule, and deprives the Commonwealth of its just and Constitutional rights. It was the late Justice John M. Harlan, of the Supreme Court of the United States, who said:

"A National Government for national affairs and State government for State affairs is the foundation rock upon which our institutions rest. Any serious departure from that principle would bring disaster upon the American system of free government."

Breaks Hoisting Record

The Peabody mine, at Pana, Ill., broke the State record when 4,800 tons was hoisted in eight hours, an average of 600 tons per hour, or ten tons per minute.

INDUSTRIAL PENSIONS UNDER CONSIDERATION

Gila County, Ariz., Chapter of Mining Congress, Plans to Aid Wage Earners

Organization Recently Formed Has Close to 400 Members—Plans Many Activities

A spirit of enterprise and determination is being evidenced in the newly formed Arizona chapter of the American Mining Congress. The Gila County section, hardly three months old, soon will have 400 members. The following communication from Patrick Rose, the manager, sets forth some of the plans of the new organization.

The Gila County Section of the Arizona Chapter of the American Mining Congress has been in active operation for less than three months. During this time a prospective membership of four hundred is assured. The membership represents men in various industries. Business men, professional men, mechanics, stock men, farmers, railroad men and others throughout the county have joined.

Mining is the paramount industry of this county on which nearly all other industries solely depend, not only in Gila County, but in neighboring counties as well.

Were it not for the mining industries the agricultural products would little more than defray the transportation expenses of their marketing—a fact which is readily recognized by those interested in agriculture. Those profiting by this knowledge are among our most enthusiastic supporters. Patented, non-patented productive mines, concentrators and smelters represent 72 per cent. of the \$36,292,000 assessed valuation of Gila County for the year 1914. It naturally follows the increased production, scientific treatment and prosperous commercial values of the output of these mines, extends its beneficial influence to all other industries in this district. To amalgamate those industries in an Association having for its ultimate object the creation of conditions under which the great mining industries of Arizona and those depending upon them may be operated at a conservative profit, is our aim.

To better conditions of the employees, both above and under ground; to solicit Federal and State legislation favorable to the scientific treatment and exploration of the mining and metallurgical industries; to place before the inquiring public and the prospective investor the facts of the wonderful and natural resources of the mineralized zones of Arizona, also will be the object of earnest effort.

To assure capital through safe and sane legislation, both Federal and State, that its investments and profits are safeguarded, is a further object of the organization. In no other industry are the opportunities in the Southwest greater than that of developing the copper, silver and gold deposits in Arizona.

Efforts to continue the social and friendly relation such as now exists between the employer and employee in the mining and other industries of the district will be made. Cooperation towards an economic and systematic plan by which the industrial workers in the various crafts may be cared for in their old age, and partial or total disability is to be attempted. A system which places the responsibility of its creation and management on the employee and employer alike will be striven for.

STATE GEOLOGISTS HOLD ANNUAL MEETING HERE

Despite the curtailing that has been done in appropriations in most States, a normal increase in the amount of cooperation between the U. S. Geological Survey and the various States is reported. State geologists and engineers met in Washington recently and went over the plans for the work of the coming year. The meeting was well attended. Those attending were:

Dr. E. H. Sellards, Tallahassee, Fla.; Dr. S. W. McCallie, Atlanta, Ga.; F. W. DeWolf, Urbana, Ill.; Prof. Geo. F. Kay, Iowa City, Iowa; J. B. Hoeing, Frankfort, Ky.; Dr. Wm. B. Clark, Johns Hopkins University, Baltimore, Md.; R. C. Allen, Lansing, Mich.; E. V. Willard, acting State engineer, St. Paul, Minn.; H. A. Buehler, Rolla, Mo.; Dr. H. B. Kummel, Trenton, N. J.; Frank M. Williams, State engineer and surveyor, Albany, N. Y.; Dr. Jno. M. Clark, New York; Prof. C. E. Sherman, inspector, Ohio Cooperative Topographic Survey, Brown Hall, Univ. of Ohio, Columbus, Ohio; G. W. McNess, chairman Penn. Survey Comm., Kittanning, Pa.; Richard R. Hice, Beaver, Pa.; Prof. A. H. Purdue, Nashville, Tenn.; Dr. Thos. L. Watson, Charlottesville, Va.; Dr. L. C. White, Morgantown, W. Va.; Dr. W. O. Hotchkiss, Madison, Wis.; L. W. Trumbull, Cheyenne, Wyo.

MINERAL PRODUCTS SHOWN ON PANAMA CANAL STATISTICS

An analysis of traffic passing through the Panama Canal during February shows an increasing amount of mineral. One cargo of coal moved from Glasgow to San Francisco. Another cargo of coal originated at Norfolk and was destined to San Francisco. Iron ore, amounting to 19,850 tons, was shipped from Cruz Grande. Nitrates moved in quantity from Chilean ports to Europe and to the United States. Several cargoes of refined petroleum passed through the canal, moving from the Atlantic to the Pacific, and were consigned to Japan, China, Philippines, San Francisco and some ports on the Pacific side of Central America.

SURVEY BEGINS REPORT ON ARIZONA QUICKSILVER

Quicksilver in the Mazatzal Range of Arizona is the subject of a brief report which just has been begun by the United States Geological Survey. The report will not be published for five or six months.

MAP MADE TO EMBODY NEW INFORMATIVE DETAILS

A geological map, which will be an innovation, is about to be issued by the Survey. It covers the Behring River coal field. A detailed survey of the field was made in 1906. The report is out of stock. It was found advisable not to re-issue it, but make a map in which the most important data will be included. The map will show the areas of coal lands, structure sections of the beds, as well as their general attitude. A summary of the chemical analyses of the coal as sampled, also will appear on the map. All provision has been made for the map to show the essential features of the report.

An indexed map will show the relative position of the field to the new railroad as well as to the existing railroad. It is hoped to have this map ready for distribution by June 15. It is a sale publication.

MINNESOTA SCHOOL OF MINES GETS AN INCREASE

**Report is Circulated that Work Would Be
Hampered by Lack of
Funds**

Press statements to the effect that the Minnesota School of Mines had been handicapped seriously by the failure of the legislature to grant it a sufficient appropriation are without foundation. In this connection, George E. Vincent, president of the University of Minnesota, advises as follows: "The report that the Minnesota Legislature had made no appropriation for the maintenance of the School of Mines is without substantial foundation. A small appropriation dating from 1895 was given up and merged in the large appropriation of more than half a million dollars annually for the general support of the institution. There will be no diminution whatever, but rather a slight increase in the amount devoted to mining instruction and investigation for the coming two years."

ARIZONA OFFERS JOBS TO UNDERGRADUATES OF MINING SCHOOLS

As the University of Arizona College of Mines has more positions open in the mines of the State for its undergraduates than it can fill, an invitation has been issued to undergraduates of other mining schools who wish to take advantage of the opportunity offered. The positions to be filled carry with them remuneration ranging from \$2.50 to \$3.75 per day, in addition to offering splendid opportunities for acquiring practical knowledge.

NEED OF MINE LOCOMOTIVE INSPECTION BEING RECOGNIZED

Indications are that the time is not far distant when the Bureau of Mines will have its seal on every locomotive in the coal mines of the country. The necessity of having locomotives equipped with motors which will stand careful examination, is becoming more and more evident. The effort in this behalf met a little opposition.

WORLD'S GOLD PRODUCTION MUST BE INCREASED OR CREDIT EXPANSION WILL BE CHECKED

Englishmen Now are Mining Sixty-five Per Cent. of Yellow Metal—Economic Requirements of the Western Hemisphere Demand Increased Output of Gold—System and Science are Lacking

BY RUSSEL F. COLLINS—SPOKANE, WASH.

The subject of money has been discussed in its various forms from the earliest period of business relationships. It has been the medium by which merchants and tradesmen have transacted their business. I shall not attempt, in this brief article, to go into the history of money, but shall attempt to show the relationship of gold, which has been accepted as the universal standard or basic money, and its relationship to the world's credit money of today. The various forms of credit under the present system of money standards are given recognition because of the fact that gold is looked upon, and, in fact, pledged as the final redemption of almost all of the outstanding credit obligations. This being true, it is the problem of the world today to keep in mind the necessity of increasing the world's gold stock for monetary purposes in a ratio, comparing with the increasing volume of credit. If this is not done, the world's gold stock will be reduced, as the years go by, while the credit side is increased by leaps and bounds, until finally the history of hundreds of years will be repeated in the general scramble for specie and the general depreciation of credit.

ROME'S EXPERIENCE

At the beginning of the Christian era the Roman Empire possessed the equivalent of \$1,600,000,000. At the beginning of the ninth century that gold supply had dwindled to \$500,000,000. The constant stream of the yellow metal was borne by the camel trains across the desert to India, where it was exchanged for the luxuries of the tropics, from which seclusion it never returned. Hence, we find a condition in the Roman Empire of poverty, starvation, and a general

cataclysm, due largely to the sapping away of the blood of its commercial life. Two elements enter strongly into what is generally termed prosperity; first, an increasing money supply beyond the relative increase in trade, causes a general rise in prices, which in turn whets the speculative appetite, which, again in turn, speeds up the circulation of the money and brings out of hiding, and into the general channel of exchanges, the money of the conservative and the miser. A general reduction of the money stock in the circulation of a country's business life tends to bring down the general price level, which, in turn, causes the business man, the speculator and the miser to join in a general attempt to liquidate or withdraw his money from the channels of trade. This, in turn, slows down the speed at which the money circulates. As an illustration, during a boom period and good times, a \$20-note will pass from hand to hand daily, possibly two or three hands in a single day, whereas when the times are slack, the owner of this note becomes more conservative and it will be retained in one hand for a week, or even a month, before it passes on to the hand of another.

ENGLAND PROFITS

The master financiers of Europe, having at their hands the financial experience of centuries, have looked especially into this peculiar effect of the inflation and contraction of the monetary circulation of a country. They have not only mastered this, but they have appropriated it to the selfish use of the money master. For instance, it is a common practice for the moneyed houses of England, controlling the financial center of the world, to spend twenty, fifty, or even five hun-

dred million in the building of railroads, the purchase of cheap real estate, construction of waterpower dams, or municipal improvements in a foreign country. This amount of money, invested in the country where they have undertaken these enterprises often doubles—or even more than doubles—the total amount of monetary circulation in that country. This increase of the money stock always tends to cause a general rise in stocks, real estate, town lots, labor, etc., in this country. Speculation inevitably follows such a rise. In a few years these master financiers, as though engaged in a great chess game, are able to liquidate upon their town lots, upon their stocks, upon their various investments, which more than takes back to them the entire amount of their original investment, leaving them with a substantial investment in the securities of the country involved.

EFFECT OF FLUCTUATION

The general gold stock of the world, in the last few decades, has shot upward by leaps and bounds, coupled with a general increase in the world's credit money, including checks, to which is traceable the general advance in the price of securities, land, stocks, town lots and other things. This increase, as is always the case, has been accomplished by the speculative period—the wild dash to make money without doing anything—but in the last two or three years we find the production of gold not only short of the years previous, but an actual falling off. No countries are so vitally affected by this reduction of the basic money as the debtor country, because its interest is constantly accumulating, its obligations maturing, and the general tendency to reduce the price of the commodities, or securities, by means of which the debtor country is to pay its obligations. Therefore, it behooves the United States, as well as all the States of the western hemisphere, to do everything within her power to carry forward the systematic production of gold, so long as gold is made the base of redemption and in which their final obligations are to be met. So thoroughly had the Englishmen, statesman

and business man, studied out the far-reaching effect of this monetary control, that they not only brought the world to a gold standard, but for the last forty years Englishmen have mined approximately 65 per cent. of the world's gold production. I repeat that America—North and South—should join in a serious consideration of the subject of gold mining, treat it on the same far-seeing lines that the bright minds across the Atlantic have treated it in the past; treat it systematically and scientifically.

BUREAUS COOPERATE IN STUDY OF AMERICAN PLACERS

J. M. Hill, of the Geological Survey, has been selected to cooperate with the representative of the Bureau of Mines in a general investigation of placer deposits of the United States. Mr. Hill will be in the office in Washington all summer compiling available data on American placers. In addition, blanks will be sent out to all placer operators so that Mr. Hill may go to the field so equipped as not to duplicate work already done.

Honor Bureau Heroes

Care is being taken by many interested in the cause of greater safety in mining, that the names of Joseph Evans, John Farrell and Edward Evans be not forgotten. These three rescuers who lost their lives in the service of the Bureau of Mines are deserving of tributes from all mine operators or workers, they hold. To such men as these is due, in a large measure, the decrease in mine disasters, and the increased efficiency of the rescue work as now conducted by the Bureau of Mines.

Canada Publishes Report

A publication of the Department of Mines of the Dominion of Canada was issued during the past month. It is part three of "The North American Cordillera" (forty-ninth parallel). It is accompanied by numerous maps. This work is by Reginald Aldworth Daly.

**TEACHES FOREIGN EMPLOYEES;
GOOD RESULTS APPARENT**

**Mine Foreman at Dunbar, Pa., Starts Night
Class Among Work-
men.**

**Illiterates Learn to Read and Write
Quickly—School
Grows.**

Much attention is being given throughout mining districts to the education of the foreigner. A recent communication from John T. Bradley, a mine foreman at Dunbar, Pa., addressed to the *Coal Age*, contains some interesting information. The letter reads as follows:

"I want to relate some of my experience in educating this class of mine-workers. Before doing so, however, I will say that the foreigners, or the great majority of them at least, are not capable of making much headway by themselves. As a class, they require much pushing.

"The majority of the foreigners employed in these mines enjoy sitting around the coke ovens, in the evening, after the day's work is done, and recounting the happenings of the day or recalling incidents past and present. Such was the general condition of this class when I first came to the coking plant. I approached several of these men and found a ready response to my inquiries. They said that they would gladly attend a night school if they had a teacher. I offered my services and promised that if more was required than what the superintendent of the plant and I could give them, we would arrange to have a teacher come over from the adjoining township.

"The following evening a meeting was held in the little schoolhouse, and five men were present. Everything was arranged that evening for the opening of the night school at once. This was done, the first session of the school being held the next evening. The work began with the study of reading, writing and arithmetic. At the end of a month there were fourteen scholars in attendance. Some of these could not read or write, and a few did not know A from B, but they all persevered in their work. The first term

lasted six months and at its close each man could read and write and some were so far advanced as to be able to figure in decimals.

"It may readily be imagined that it took lots of grit and perseverance to keep this class together and to make it interesting to all. Occasionally the men would stay away by turns, but whenever this happened I would hunt them up and ask them the reason for their absence. Often the reply was, 'I can't learn,' or 'I hate to trouble you so much,' or 'I am so tired in the evening that I do not feel like studying.' Still we persevered. The class was held twice a week, the session opening at 7 o'clock in the evening. Often we would not leave the school until 10 or 10.30 o'clock.

"The class has been in session for three months, this term; and we have a few more advantages than we enjoyed last year, owing to the superintendent's taking up the matter with the company. Being a progressive man himself, he succeeded in interesting the company in the men's welfare. As a result the officials gave us the use of one of the company's houses and had it fixed up for a school, including also a 'first-aid room.' The men were free to meet in this place every evening, if they desired, and those who wished enjoyed the privileges of smoking.

"At the present time many of the men are well advanced in the common rudiments and have commenced the study of mining, including mining laws. Monday night is 'first-aid night.' There are twenty men in the first-aid class, and the mine foreman is the instructor. Indirectly, the sessions of the school are a great benefit in keeping the men occupied and drawing them away from the saloons. I often mention in my talks the evils of gambling and drinking, and this has a good effect.

"The work of the school keeps me busy in my spare time, looking over the work of the previous night or preparing questions for the following evening. However, no one but those engaged in the work knows the satisfaction that comes from seeing the improvement of men who were once illiterate, but are now able to read and write. This satis-

faction certainly pays well for all the energy expended in keeping the men interested and at work. I can say that the experience gained has been a personal benefit to myself. I am convinced that if more mine officials would interest themselves in the same way for the welfare of their men there would be less booze consumed and less crime committed. The work will produce better men and more skillful workmen in the next generation, if not in this. Its tendency is to make law-abiding citizens."

GEOLOGICAL SURVEY PUBLICATIONS

The following are new publications by the United States Geological Survey:

Bulletin 581-D. Geology and Oil Prospects in Waltham, Priest, Bitterwater and Peachtree Valleys, California, with Notes on Coal, by R. W. Pack and W. A. English. 1914. Pp. 119-160, Pl. V, figs. 3-6.

Parts of Mineral Resources of the United States, calendar year 1913, as follows:

Mineral Products of the United States: Review of Conditions and Output in 1912 and 1913, by E. W. Parker, with a summary of mineral production in 1913 compiled by W. T. Thom. 1914. Pp. vii-clxix, fig. A. Part I: A.

Gold, Silver, Copper, Lead and Zinc in Idaho and Washington in 1913 (Mines Report), by C. N. Gerry. 1914. Pp. 755-801. Part I: 24.

Gold, Silver, Copper, Lead and Zinc in Nevada in 1913 (Mines Report), by V. C. Heikes. 1914. Pp. 803-844. Part I: 25.

Gold and Silver in 1913 (General Report), by H. D. McCaskey. 1914. Pp. 845-885. Part I: 26.

The Production of Petroleum in 1913, by D. T. Day. 1914. Pp. 929-1284, Pls. III-IV, figs. 20-21. Part II: 32.

The Stone Industry in the United States in 1913, by E. F. Burchard. 1914. Pp. 1285-1410, Pls. V-VII. Part II: 33.

The Production of Natural Gas in 1913, prepared under the supervision of D. T. Day by B. Hill. Pp. 1411-1507. Part II: 34.

The Source, Manufacture and Use of

Lime, by E. F. Buchard and W. E. Emley. 1914. Pp. 1509-1593. Pls. VIII-IX, figs. 22-25. Part II: 35.

Thirty-fifth Annual Report of the Director of the United States Geological Survey to the Secretary of the Interior, for the fiscal year ended June 30, 1914. 163 pages, 2 plates.

A detailed account of the work of the Geological Survey during the fiscal year 1914, with a statement of the total appropriation made by Congress for the Survey and the allotments for each kind of work. Under the heading "Special features" is a brief discussion of the province of a federal survey. The report also includes abstracts of the publications of the year and maps of the United States showing areas covered by topographic and geologic surveys.

Bulletin 576. Geology of the Hanagita-Bremner Region, Alaska, by F. H. Moffit. 1914. 56 pages, 6 plates, 6 text figures.

This bulletin presents information about a region that was very little known prior to 1911. Although the author's survey was of a reconnaissance character, it was sufficiently detailed to outline the geography, general geology, and geologic history of the region and to obtain information about the occurrence and distribution of the gold and copper deposits. The Hanagita-Bremner region includes some mineral deposits which, though almost undeveloped, give promise of becoming commercially valuable, now that they have been made comparatively accessible by the railroad recently completed up the Copper River valley. The illustrations include topographic and geologic reconnaissance maps, a map showing the distribution of timber, and diagrams illustrating some of the methods of formation of canyons and other stream channels.

Bulletin 580-M. The Rochester Mining District, Nevada, by F. C. Schrader. 1914. Pp. 325-372, Pl. VIII, figs. 89-92.

Bulletin 580-N. The Elliston Phosphate Field, Montana, by R. W. Stone and C. A. Boline. 1914. Pp. 373-383, Pl. IX.

Bulletin 580-O. The Rutile Deposits of the Eastern United States, by T. L. Watson. 1914. Pp. 385-412, figs. 93-97.

Bulletin 580-P. Publications by Survey Authors on Metals and Nonmetals except Fuels, compiled by I. P. Evans. 1914. Pp. 413-455.

Parts of Bulletin 580, Contributions to Economic Geology, 1913, Part I.

Bulletin 600. The Glacier National Park; a Popular Guide to its Geology and Scenery, by M. R. Campbell. 1914. 54 pages, 13 plates, 13 text figures.

TALK OF THE DAY**CHANGES FOR BETTER**

From the standpoint of the copper producing mines it is to be borne in mind that anything less than 100 per cent. capacity production tends to hold down profits and increase the cost per unit of output; but so great has been the improvement in the whole domestic copper situation since the turn of the year, when millions of pounds of unsold copper were being carried by the large producers, that the transformation has been but little short of miraculous, especially with Germany, our largest export consumer, out of the market.—*Daily Mining Record*.

SHOULD SHOW APPRECIATION

If the new Rittman process actually results in the production of cheap gasoline, every motorist in the United States should affix a bust of the young government inventor on the top of his radiator as a token of appreciation. Then will perhaps come another of Uncle Sam's bright young men with a discovery that will lower the cost of rubber tires, or possibly provide a satisfactory and cheaper substitute for the present wheel material. There would still be room for advancement after that, but these two booms would put the automobile public in a mood to propose and elect a presidential ticket.—*Washington Star*.

ACTING ON FACTS

It is, at last, being proved by coal men that no operator will cut a price when he knows that he is also taking a loss. It has been believed for years that such was the case. But proof was delayed because it was so hard to get operators to find what was the cost of production.

They had a system by which they guessed at cost. They guessed wrong, but they believed themselves right. They could not be forced to change their methods or to see the facts. They had to be led to it by patient effort. Men who are

real diplomats had to ask questions, suggest comparisons, volunteer points to be considered, and even prove a loss. When windows into dark minds were thus broken, and when the light entered, the operators finally saw. Now that they see, they are not keen to take the inevitable loss.

If today there is a tendency to hold for better prices, it is not due to any agreement. It is due mainly to the fact that men know what it costs to produce coal and refuse to cut under it. This is sensible reform because it gets the facts first and then acts upon them. Such reform will outlive our period of depression.—*Black Diamond*.

BLOCKED BY HIGH RATES

There is one feature of the bituminous coal trade of this country which is attracting a great deal of attention at the present time and that is the possibilities of increase in our export trade. These possibilities, and, we might say, probabilities, can only be extended into actualities either by an increase in the number of freighters engaged in the off-shore business, as it is called, or by a disposition on the part of foreign users to pay the increased cost which arises from the scarcity of vessels in which shipments might be made. Our prices are probably not 40 per cent. of the price commanded by equally good coal on the other side of the world, at Cardiff, at the same time transportation facilities even at the rates which can now be had are insufficient to meet the demand. It is pleasing to note the fact that tonnage might be placed but it is very annoying, at the same time, not to be able to take advantage of the situation.—*Coal Trade Journal*.

NEEDS MORE PUBLICITY

The mining engineer has certainly failed completely to place himself before the public in the right light. We hear about the "wonderful" advances in bridgework and railroading. Even in our schoolbooks we read about the ingenuity of the inventors of the cotton gin, the harvester and the sewing ma-

chine. The pictures of these men and machines are associated with our earliest recollections. In fact, there was a time when we were divided between a desire to duplicate these inventions and a longing to be a cowboy and kill Indians, so fervent was our hero worship for these pilots of industry.

But the public has no such thoughts about the mining engineer. Only his mistakes have refused to stay buried. His triumphs have failed to impress themselves on the public.

The wonders of the mines have been overlooked, partly because the mines are far from the big cities, and partly because the mining engineer has not sought the requisite publicity, and partly also because we are no longer an appreciative people.—*Coal Age*.

RESCUE STATIONS

Disappointment that Kentucky must wait at least a year for the establishment of a mine experiment station and one or more rescue stations is modified somewhat by the apparent certainty now that these things are to come to us. There is reason to believe that J. A. Holmes, director of the Bureau of Mines, is convinced that Kentucky should be among the first to profit by the Government's renewed interest in mine rescue facilities. More than half the contest was won last week when Congress passed the law authorizing the establishing of experiment and rescue stations; thus the way has been cleared for items appropriating money for definite projects.

The attitude of Director Holmes toward Kentucky's needs, as indicated in Washington dispatches, is peculiarly gratifying in view of the purpose of the administration to introduce a bill into the next Congress authorizing Mr. Holmes and the Secretary of the Interior to select sites for both experiment and rescue stations.

It should not be necessary to present any arguments on the claims of eastern Kentucky in this regard. Up to date we have been peculiarly fortunate in the absence of wholesale disasters; but this carries no guarantee of security in the

future. It would be a great pity if some such affair as that in West Virginia the other day were necessary to drive home the conviction of our requirements in the matter of rescue facilities.—*Louisville Courier-Journal*.

THE QUALITY IDEA

There are many people, as every coal man knows, who look at price first, last and all the time, in everything they buy, whether coal or clothes. The result is, of course, that with these people the appeal of the dealer must always be made to their search for the lowest price, regardless of quality; and, therefore, to that extent, the man who does not deal in the cheapest of goods, but prefers to handle those of the better sort, is considerably handicapped in attempting to drive home the point that it sometimes pays to buy the more expensive article.

This is, perhaps, more true of the coal merchant than of merchants in any other line of business, as the trade knows to its cost. It takes no great amount of intelligence to appreciate, for example, the fact that it costs more to buy a woolen garment than one made of cotton, and so even these chronic bargain-hunters will usually consent, reluctantly, to pay a little more for quality in clothing. But when it comes to coal, it is more of a job to impress the quality idea.—*Retail Coalman*.

COOPERATIVE EXPORT PLAN

The purpose of economic cooperation is to obtain better and speedier results through smaller expenditure of money and effort.

A simple illustration of this is seen in the cooperative export plan of the Illinois Manufacturers' Association. In order to obtain business in Russia for its members, it is sending a representative, of sixteen years' selling experience abroad, to take charge of show rooms and of a selling agency to be established by the association at Petrograd or wherever else it may be found advisable.

Any Chicago firm which may wish to establish an export business in Russia may now be saved the heavy initial ex-

pense which would be necessary if it undertook such work individually.

It is stated that the expense to any member of the Illinois Manufacturers' Association who decides to participate in the plan will be only \$300 a year, payable in monthly instalments of \$25 each. The collective showing of various Illinois manufacturers in the proposed exhibits at Petrograd are expected to afford perhaps the most powerful advertisement that American goods have yet had in Russia.

This plan could be well adopted in other trade fields. Many American firms are now considering entering the export business either for the first time or in countries in which heretofore they have made no efforts. To nearly all of these the chief obstacle will be the initial expense. Through such a method as that prepared by the Illinois association, many firms could take, at small cost, the initial steps in making their goods known in any particular foreign field and in obtaining some business. Having the way thus paved for them, it will be much easier than it otherwise would be to broaden their respective activities along individual lines.—*Financial America*.

TO HURRY CLASSIFICATION OF WESTERN COAL LANDS

Fifteen Geological Survey parties are working in Western coal fields in an effort to classify the withdrawn land as rapidly as possible, so that the non-coal lands may be open to entry as soon as possible. No drilling is being done by these parties, but careful examination of the surface is being made.

Find Copper in Russia

Advices to the Department of Commerce tell of the discovery of important deposits of copper and copper pyrites near Elisavetpol, Russia.

Australian Zinc Imported

The first whole cargo of concentrate zinc passed through the Panama Canal recently. It was shipped from Port Pirie, Australia, to Galveston.

DATA ON ENRICHMENT OF SILVER ORES BEING ASSEMBLED

Edson S. Bastin, of the U. S. Geological Survey, has completed a trip through many of the Western silver camps collecting data on the general problem of the enrichment of silver ores. In connection with F. B. Laney, of the Bureau of Mines, he is now working up the results of this trip, in San Francisco.

BIG HORN BASIN IS ATTRACTING OIL MEN

The manuscript of the report on the oil field of the Big Horn Basin, which has been prepared by Chas. T. Lupton, has been turned in to the Survey. The report probably will be ready for distribution within six months. This oil field doubtless is attracting more attention from oil and gas men than any other one field in the Rocky Mountains at this time.

MUCH OIL PROSPECTING IN PROGRESS IN MONTANA

The State of Montana is attracting considerable attention from oil men just at this time. Most of the operations thus far, are of a prospecting nature. No oil in quantity has been discovered. Field parties of the Geological Survey are busy pointing out favorable structures with an idea of preventing useless drilling.

COMPLETES MANUSCRIPT OF SULPHIDE ORES REPORT

The completed manuscript of W. H. Emmons' report on the enrichment of sulphide ores has been turned in to the Survey. It will be published as a new edition of Bulletin 529. It will be a year, however, before the completed report is published.

Opens Information Bureau

An information department has been opened in connection with the Arizona Chapter of the American Mining Congress. Information concerning every mine and prospect in Arizona is being collected.

RECONNAISSANCE OF NORTH LARAMIE MOUNTAINS FINISHED

A. C. Spencer, of the Geological Survey, just has completed a reconnaissance of the North Laramie Mountains, and of the Atlantic Gold district in Wyoming. The report will be printed in about six months.

Mr. Spencer has returned to Santa Rita to complete a detailed study of that mining district, which will include the disseminated copper ore of the Chino Copper Company. He expects to finish this work before July 1.

To Exhibit Platinum

The Trinity County (California) mineral exhibit at the Panama-Pacific Exposition includes \$2,000 worth of gold nuggets and over \$1,000 worth of platinum. Trinity leads the State in the production of platinum.

Work on Report Hurried

Due to the demand being made for the Geological Survey's reports on Broad Pass and Willow Creek, an effort is being made to hasten the date of its distribution. Broad Pass and Willow Creek are important mining districts along the line of the new Government railroad in Alaska. It is hoped to have this report ready for distribution by the middle of August.

Work in Kerby District

Two topographical parties and one leveling party of the Geological Survey have begun work in the Kerby District of southern Oregon. Three other parties are working out of Preston, Cal., covering a portion of the northwestern corner of that State so as to join the sheet being prepared of the Kerby district.

Tungsten Production

The production of tungsten ores in the United States for 1914 was the smallest since 1908, according to figures given out by the U. S. Geological Survey. The output is estimated as equivalent to 990 short tons, carrying 60 per cent of tungsten trioxide. The output in 1913 was 1,537 tons, of which 953 tons were ferberite from the Boulder field in Colorado. The output of the Boulder field in 1914, however, was only 466 tons.

The more easily mined tungsten ores which lie close to the surface are now largely worked out in the older districts, and mining is thus becoming more difficult and expensive, making it especially hard on the small operator.

The European war has disturbed tungsten mining, but the imports of ore, tungsten, and ferrotungsten, as shown by figures collected by the Bureau of Foreign and Domestic Commerce, have been affected even more. During the year 267 tons of ore, valued at \$139,697, were imported, against 401 tons, valued at \$213,122, in 1913. During 1913 661 tons of tungsten metal and ferrotungsten, valued at \$835,212, were imported. In 1914 these imports dropped to 192 tons, valued at \$219,506.

Preparing Report on Mississippi

A paper on the geology and water supply of Mississippi is being prepared by T. W. Vaughn, in charge of Coastal Plain investigations of the United States Geological Survey. The work is being done in cooperation with Prof. E. N. Lowe, the Mississippi State geologist. This report, which will not be ready for several months, will be of interest to those contemplating mining operations in the iron deposit region of northern Mississippi.

Studies are being made of the ground water problem on the Coastal Plain in Texas west of the Brazos River.

Antimony Reports

While England is credited in the United States customs returns with furnishing nearly half of the antimony imported, according to the United States consular reports, most of that so credited comes from China. A Chinese mining and smelting company has now opened an office in New York for the sale of antimony in line with the desire of the Chinese merchants to sell their antimony direct to American buyers.

Our imports of antimony for 1914 totaled 14,263,629 pounds, valued at \$696,362, against 19,584,624 pounds, valued at \$1,134,467 in 1913. The value of antimony imported in 1911 and 1912 was \$541,588 and \$693,218, respectively.

WEST VIRGINIA COUNTIES ARE BEING TRIANGULATED

Triangulation of Nicholas and Webster Counties, W. Va., is being done by a party from the Geological Survey. The State geologist is cooperating.

Manganese Ore Imports

The European war has seriously affected the importation of Manganese ore and alloys, the alloys being essential in the manufacture of steel and the ore in the manufacture of glass and dry batteries. As the United States has been depending on Russia and India for about three-fourths of its manganese ore and has been importing from England and Germany about half the amount of ferromanganese needed by the steel industry, the effect of the long continuance of the war is a matter for concern. According to figures prepared by the U. S. Geological Survey it is estimated that the imports of ore for 1914 were at least 25 per cent under those for 1913 and those of ferromanganese 40 per cent less.

The decline in imports has been reflected in a rise in prices. One important outcome of the shortage in manganese ore and the consequent increase in prices has been to stimulate interest in mines in this country. A number of mines which were idle have been reopened and are producing. Several concerns are experimenting with the idea of using ores heretofore considered not available.

Arsenic Production

The production of arsenic in the United States during 1914 shows an increase of more than two-thirds over the output of the preceding year. The amount produced was 4,227 short tons, valued at \$251,268, the output being the largest ever made in this country. That for 1913 was 2,513 tons, valued at \$159,236. In 1912 the production was 3,141 short tons, valued at \$190,757. Arsenic is a by-product, obtained in the smelting of lead, copper and silver, and is known as white arsenic, or arsenious oxide. No arsenic, other than that produced as a by-product, has been manufactured in

this country for a number of years, because the arsenic saved at the smelters and the imported material have been so plentiful and so cheap that such a production has been impracticable.

Arrange Alaskan Work

In cooperation with the Forest Service, the Geological Survey is investigating the water resources in Southeastern Alaska. Gauging stations are being put in the principal streams. The work will be maintained during the winter months.

FORESEES RECOGNITION

That the *Washington Times* foresees the more general recognition of the Bureau of Mines may be judged from the following editorial, which appeared in a recent issue:

The Federal bureau of thrills, known as the life-saving service, has passed into the newly organized Coast Guard Service. So the Bureau of Mines enters a claim to be considered the official hero roster of the Government.

If mines were not in out-of-the-way and inaccessible places, if cool, deliberate facing of death did not attract less attention than a sudden plunge into peril, the mines long ago would have furnished more thrills than the sea. All the mines need is a Joseph Conrad to unravel their romance for popular imagination.

The Bureau of Mines sent its rescuers to Layland, W. Va., and there after prowling about in the ruins of a dank, dark underground city, they rescued forty-seven miners who had been imprisoned four days, following a terrific explosion.

To see a drowning man, to plunge in and bring him ashore, wins a hero medal. To study a blue print of a buried labyrinth of paths and channels, to walk coolly in amid the gaseous vapors, to place one's life in the uncertain breath of an oxygen tank—all this requires a deliberate sort of courage of the higher order which has not yet been recognized nor even very widely advertised.

But recognition of the work of the Bureau of Mines is growing, and it will not be long until it will be known, as are the Weather Bureau and the Coast Guard Service, as both a saver and conservator of life. The work of rescue is being constantly perfected to minimize the danger to volunteer rescuers.

The imports of gold in 1914 were \$57,387,741, and in 1913 they were \$63,704,832. Silver imported in 1914 amounted to \$25,959,187; in 1913 the silver imports were \$35,867,819.

PUBLIC ENEMIES

If you build a line of railway over hills
and barren lands,
Giving lucrative employment to about a
million hands;
If you cause a score of cities by your
right-of-way to rise,
Where there formerly was nothing but
some rattlesnakes and flies;
If when bringing kale to others you ac-
quire a little kale,
Then you've surely robbed the peepul
and you ought to be in jail.

If by planting and by toiling you have
won some wealth and fame,
It will make no odds how squarely you
have played your little game;
Your success is proof sufficient that you
are a public foe—
You're a soulless malefactor; to the dump
you ought to go.
It's a crime for you to prosper where
so many others fail;
You have surely robbed the peepul and
you ought to be in jail.

Be a chronic politician, deal in super-
heated air;
Roast the bank and money barons, there
is always safety there;
But to sound the note of business is a
crime so mean and base.
That a fellow guilty of it ought to go
and hide his face.
Change the builders' song triumphant
for the politicians' wail,
Or we'll think you've robbed the peepul
and we'll pack you off to jail

—WALT MASON, IN JOURNAL OF ELEC-
TRICITY, POWER AND GAS.

The United States exported during the seven months ending January 31, 1915, gold to the value of \$139,333,130; for the corresponding period of 1913, \$34,978,050; for the corresponding period of 1912, \$31,265,654. Silver was exported during the seven months ending January 31, 1915, to the amount of \$31,280,552; for the corresponding period of 1913, \$33,464,392; for the corresponding period of 1912, \$44,728,447.

PERSONALS

Dr. J. A. Holmes, Director of the Bureau of Mines will spend the summer in Denver.

W. W. Fleming is giving first-aid demonstrations before classes in metal mining at the Oklahoma State School of Mines.

N. V. Breth, of the Bureau of Mines, has been investigating electrical shot firing in Kansas and Oklahoma coal fields.

R. H. Kudlich, of the Bureau of Mines, is making a field study of safety catches, hoisting rope practice, cage skip design, overwinding devices, and all elements of the problem of safety in hoisting men. Mr. Kudlich will confine his attention to the Western camps on this trip.

H. G. James, of Kansas City, secretary of the Western Petroleum Refiners' Association, spent several days in Washington recently, on business.

H. N. Emmons, of the Tennessee Copper Company, was a business visitor to the capital recently.

Honduras is a country rich in gold, although mining operations there have never been conducted with modern equipment or by present-day methods. There is hardly a stream in the republic but will pan gold from its sands. All prospectors agree that, with the extension of railroads into the interior, making possible the introduction of heavy mining machinery, many mines will be developed into richly paying investments. No other mineral than gold is sought or mined.

According to recent consular reports Manchuria is becoming a good field for the sale of American mining machinery and supplies. Inquiries on the subject may be addressed to United States Consul General, Mukden, China.

UNCLE SAM is conducting a multitude of activities which have a bearing on mining. Men engaged in this industry cannot afford to be out of touch with this work.

The Mining Congress Journal, the official organ of the American Mining Congress is covering the Washington field carefully in its news columns. It offers a ready means of keeping you informed as to the efforts the Government is making in your behalf.

It is important not to forget that matters develop in the capital which menace your best interest. It is advantageous to know of these things in time to counteract them.

The Mining Congress Journal covers Congress, the Bureau of Mines, the Geological Survey, the Interstate Commerce Commission, the Supreme Court, the Land Office, the Patent Office, the Department of Labor and the other Federal offices where the work affects the mine owner or operator. State mining legislation and current decisions are featured. There are many other interesting features as to mines in the Journal.

Can you afford to be without this service?

The American Mining Congress

The American Mining Congress is a voluntary association supported by the dues and fees of its members. It is striving to bring about:

First—Safety and efficiency in mining operations.

Second—Intelligent conservation with a view to the highest development and use of our mineral resources.

Third—The stimulation of investment in practical mining operations by showing that mining is a legitimate business when intelligently conducted.

Fourth—Uniformity in state laws governing mining operations carried on under like conditions.

Fifth—Such federal co-operation through research and investigation as will furnish the basis for intelligent state legislation, and will solve those problems of economical production, treatment and transportation which are essential to an increase in mineral production.

Sixth—The improvement of the economic conditions underlying the coal mining industry.

If you are interested in this work, now is the time to help; do not wait until those who are now carrying the burden have become discouraged.

The appended application blank will show the way. Come in and bring the neighbor who should join this movement. Mail application to

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I hereby make application for membership in THE AMERICAN MINING CONGRESS and agree, if accepted, to abide by the By-Laws, Rules and Regulations of said organization and to pay the dues required by same.

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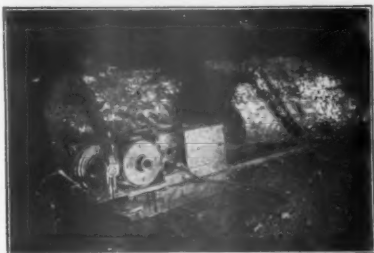
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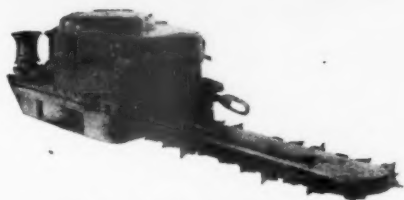
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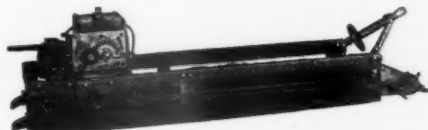
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